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TUFTS COLLEGE

ol. XV

BULLETIN

No. 2

DECEMBER, 1914

ANNUAL CATALOGUE

1914-1915


PUBLISHED BY THE TRUSTEES OF TUFTS COLLEGE

Entered at the Post Office, Boston, Mass., as Second-Class Matter

NOTICE

TO THE STUDENTS OF TUFTS COLLEGE

Published monthly, from November to June inclusive, at Tufts College, Mass., by the Trustees of Tufts College. Copies may be had by addressing the Registrar, Tufts College, Mass.

 The post-office address of the School of Liberal Arts, Jackson College for Women, the Crane Theological School, the Engineering School, and the Bromfield-Pearson School, is TUFTS COLLEGE, MASS.

The address of the Medical and Dental Schools is 416-430 HUNTINGTON AVENUE, BOSTON, MASS.

THE GROUNDS OF TUFTS COLLEGE

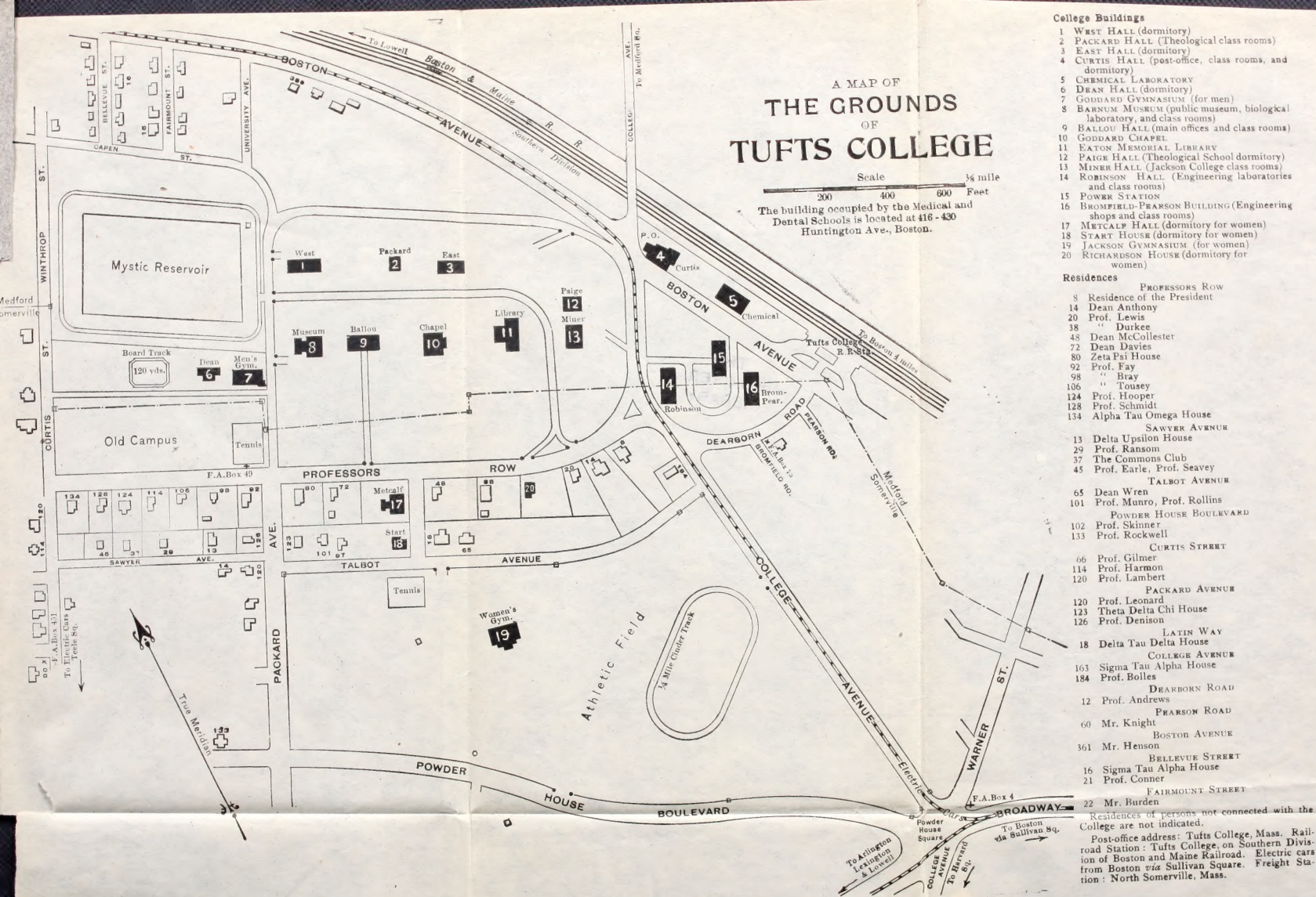
A MAP OF
THE GROUNDS OF
TUFTS COLLEGE
The building occupied by the
Dental School is located at
Huntington Ave. East



A MAP OF THE GROUNDS OF TUFTS COLLEGE

Scale 1/4 mile
200 400 600 Feet

The building occupied by the Medical and Dental Schools is located at 416-430 Huntington Ave., Boston.



- College Buildings**
- 1 WEST HALL (dormitory)
 - 2 PACKARD HALL (Theological class rooms)
 - 3 EAST HALL (dormitory)
 - 4 CURTIS HALL (post-office, class rooms, and dormitory)
 - 5 CHEMICAL LABORATORY
 - 6 DEAN HALL (dormitory)
 - 7 GODDARD GYMNASIUM (for men)
 - 8 BARNUM MUSEUM (public museum, biological laboratory, and class rooms)
 - 9 BALLOU HALL (main offices and class rooms)
 - 10 GODDARD CHAPEL
 - 11 EATON MEMORIAL LIBRARY
 - 12 PAIGE HALL (Theological School dormitory)
 - 13 MINER HALL (Jackson College class rooms)
 - 14 ROBINSON HALL (Engineering laboratories and class rooms)
 - 15 POWER STATION
 - 16 BROMFIELD-PEARSON BUILDING (Engineering shops and class rooms)
 - 17 METCALF HALL (dormitory for women)
 - 18 START HOUSE (dormitory for women)
 - 19 JACKSON GYMNASIUM (for women)
 - 20 RICHARDSON HOUSE (dormitory for women)
- Residences**
- PROFESSORS ROW**
- 8 Residence of the President
 - 14 Dean Anthony
 - 20 Prof. Lewis
 - 38 " Durkee
 - 48 Dean McCollier
 - 72 Dean Davies
 - 80 Zeta Psi House
 - 92 Prof. Fay
 - 98 " Bray
 - 106 " Tousey
 - 124 Prof. Hooper
 - 128 Prof. Schmidt
 - 134 Alpha Tau Omega House
- SAWYER AVENUE**
- 13 Delta Upsilon House
 - 29 Prof. Ransom
 - 37 The Commons Club
 - 45 Prof. Earle, Prof. Seavey
- TALBOT AVENUE**
- 65 Dean Wren
 - 101 Prof. Munro, Prof. Rollins
- POWDER HOUSE BOULEVARD**
- 102 Prof. Skinner
 - 133 Prof. Rockwell
- CURTIS STREET**
- 66 Prof. Gilmer
 - 114 Prof. Harmon
 - 120 Prof. Lambert
- PACKARD AVENUE**
- 120 Prof. Leonard
 - 123 Theta Delta Chi House
 - 126 Prof. Denison
- LATIN WAY**
- 18 Delta Tau Delta House
- COLLEGE AVENUE**
- 163 Sigma Tau Alpha House
 - 184 Prof. Bolles
- DEARBORN ROAD**
- 12 Prof. Andrews
- PEARSON ROAD**
- 60 Mr. Knight
- BOSTON AVENUE**
- 361 Mr. Henson
- BELLEVUE STREET**
- 16 Sigma Tau Alpha House
 - 21 Prof. Conner
- FAIRMOUNT STREET**
- 22 Mr. Burden
- Residences of persons not connected with the College are not indicated.
- Post-office address: Tufts College, Mass. Railroad Station: Tufts College, on Southern Division of Boston and Maine Railroad. Electric cars from Boston via Sullivan Square. Freight Station: North Somerville, Mass.



TUFTS COLLEGE

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TUFTS COLLEGE CATALOGUE

CATALOGUE
OF
TUFTS COLLEGE
1914-1915



SCHOOL OF LIBERAL ARTS
ENGINEERING SCHOOL GRADUATE SCHOOL
MEDICAL SCHOOL DENTAL SCHOOL
CRANE THEOLOGICAL SCHOOL
AND
JACKSON COLLEGE FOR WOMEN

Calendar — 1915

JANUARY							MAY							SEPTEMBER							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
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31							30	31													
FEBRUARY							JUNE							OCTOBER							
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28							27	28	29	30				24	25	26	27	28	29	30	
														31							
MARCH							JULY							NOVEMBER							
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							29	30	31												

Tufts College, about four miles from Boston, is accessible by rail and by electric cars. The railway station, "Tufts College," is on the Southern Division of the Boston and Maine Railroad; but goods sent by freight go to North Somerville, Mass., and should be so addressed. The post-office address is "Tufts College, Mass."

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Calendar

1914

- DEC. 19. Christmas recess begins in all departments, Saturday, 1 P.M.

1915

- JAN. 3. Christmas recess ends, Department of Arts and Sciences, Sunday evening.
- JAN. 4. Christmas recess ends in the Medical and Dental Schools, 9 A.M.
- JAN. 29, 30, FEB. 1, 2, 3. Mid-year examinations in the Department of Arts and Sciences.
- FEB. 3. End of the first half-year in the Department of Arts and Sciences, Wednesday.
- FEB. 8. Second half-year in the Department of Arts and Sciences begins, Monday. Registration.
- FEB. 22. Washington's Birthday, Monday. College exercises are suspended.
- APR. 5-12. Spring recess in the Medical and Dental Schools.
- APR. 14. Spring recess begins in the Department of Arts and Sciences, Wednesday evening.
- APR. 21. Spring recess ends, Wednesday evening.
- MAY 7. Goddard Prize Reading, Friday, 8 P.M.
- MAY 27-29. Senior examinations in the Engineering School.
- MAY 30. Memorial Day, Sunday. College exercises are suspended on Monday.
- JUNE 1. Senior Theses in Engineering School must be filed at the office of the Dean before 5 P.M.
- JUNE 5, 7, 8, 9, 10. Final examinations in the Department of Arts and Sciences.
- JUNE 11. Class Day, Friday.
- JUNE 13. Baccalaureate Sermon, Sunday, 4 P.M.
- JUNE 16. Annual Commencement, Wednesday.
- JUNE 14-19. Entrance examinations conducted by the College Entrance Examination Board. Application blanks may be obtained from the Secretary of the Board, P. O. Sub-Station 84, New York, N. Y.

Summer Vacation, Fourteen Weeks

Fall Examinations for Admission to the Department of Arts and Sciences, the Medical School, and the Dental School

(These examinations will be given in Ballou Hall, Tufts College, Mass.)

- SEPT. 18. Elementary, Intermediate, and Advanced French, 9 to 11;
Elementary, Intermediate, and Advanced German, 11 to 1;
Elementary and Advanced Greek, Advanced Algebra and
Trigonometry, 2 to 5.

- SEPT. 20. Algebra, 9 to 10.30; English, 10.30 to 12.30; Plane Geometry, 2 to 4; Physics, 4 to 5; Drawing, 4 to 6.
- SEPT. 21. Elementary, Intermediate, and Advanced Latin, 9 to 12; Solid Geometry, 9 to 11; Botany, Zoology, Biology, Geology and Economics, 11 to 1; History, 2 to 4; Chemistry, 4 to 5.
- SEPT. 6 Fall examinations for the removal of conditions, in the Medical and Dental Schools begin, 10 A.M.

- SEPT. 6. Registration begins in Medical and Dental Schools.
- SEPT. 23. College year begins in the Department of Arts and Sciences, Thursday morning. Registration.
- SEPT. 29. Lectures begin in Medical and Dental Schools, Wednesday, 3 P.M.
- OCT. 9. Registration closes in Medical and Dental Schools.
- OCT. 12. Columbus Day, College exercises are suspended.
- OCT. 17. Russell Lecture, Sunday, 4 P.M.
- NOV. 17. Announcement of Academic Honors, 12 M., Wednesday.
- NOV. 24. Thanksgiving recess begins in the Medical and Dental Schools Wednesday, 1 P.M.
- NOV. 25. Thanksgiving Day, College exercises are suspended.
- NOV. 29. Thanksgiving recess ends in Medical and Dental Schools, 9 A.M.
- DEC. 18. Christmas recess begins in all departments, Saturday, 1 P.M.

1916

- JAN. 2. Christmas recess ends in the Department of Arts and Sciences, Sunday Evening.
- JAN. 3. Christmas recess ends in the Medical and Dental Schools, 9 A.M.
- FEB. 4, 5, 7, 8, 9. Mid-year examinations.
- FEB. 9. End of the first half-year in the Department of Arts and Sciences, Wednesday.
- FEB. 14. Second half-year begins in the Department of Arts and Sciences, Monday. Registration.

Historical Sketch

Tufts College was established under a charter granted on the twenty-first day of April, 1852, by the General Court of Massachusetts. Under this charter, as later amended, the College is empowered "to confer such degrees as are usually conferred by colleges in New England." Its organization now comprises the School of Liberal Arts, the Engineering School, the Graduate School, the Crane Theological School, the Medical School, the Dental School, and Jackson College for Women. The School of Liberal Arts prepares for the degrees of Bachelor of Arts and Bachelor of Science. Work in the Engineering School leads to the degree of Bachelor of Science in the various branches of Engineering. The Graduate School offers the degrees of Master of Arts and Master of Science. The course in the Theological School leads to the degree of Bachelor of Sacred Theology, that in the Medical School to the degree of Doctor of Medicine, and that in the Dental School to the degree of Doctor of Dental Medicine.

The Foundation.—The movement resulting in the founding of the College was set on foot in 1847, through the efforts of the Rev. Thomas J. Sawyer, of New York, the Rev. Hosea Ballou, 2d, of Medford, and the Rev. Thomas Whittemore, of Cambridgeport. After much consideration, the work of raising a fund of one hundred thousand dollars for a foundation was undertaken, under the direction of the Rev. Otis A. Skinner, of Boston. About sixty thousand dollars was obtained in money. Sylvanus Packard gave his bond for twenty thousand dollars additional, and Charles Tufts gave twenty acres of land on Walnut Hill, embracing the present site of the College. Mr. Tufts announced his intention of increasing his gift of land to more than one hundred acres, and thus became the largest benefactor of the young institution, which accordingly received his name. Mr. Packard was a Boston merchant, who from the beginning made the College a peculiar care, and bequeathed to it his entire fortune. Among other benefactors who may be

numbered among the founders of the College were Oliver Dean, who gave it ninety thousand dollars, and Thomas A. Goddard, whose gifts, though unobtrusive, were constant. Mrs. Goddard continued the generosity of her husband, and at her death made a substantial bequest to the College. Dr. William J. Walker also made gifts and bequests amounting to nearly three hundred thousand dollars.

While the College owed its beginning to the effort and the support of members of the Universalist denomination, it was provided by the Legislature in the charter that

“No instructor in said college shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said college, on account of the religious opinions he may entertain.”

This provision has always been interpreted by the Trustees and Faculty in its broadest sense. The non-sectarian character of the work of the College is amply shown by the membership of its Faculty and student body. The truth, and not the maintenance of any religious or political doctrine, has been the aim of its research and its instruction.

The Department of Arts and Sciences.—The first Faculty meeting was held October 9, 1854, when there were in College students forming the Sophomore and the Freshman classes. The only building at that time was the main College Building, now known as Ballou Hall. The next building to be erected was a small brick dormitory, now Packard Hall. The large dormitory known as East Hall was the next addition to the group, and in 1872 West Hall was opened to students. It was ten years before building operations were renewed by the College. The original Faculty numbered five. The first class, of three members, was graduated in 1857.

At the outset, provision was made for a course of study leading to the degree of Bachelor of Arts. The only feature of its work peculiar to Tufts College in these years of its beginning was the attention given to the study of history. The first Presi-

dent of the College, the Rev. Hosea Ballou, 2d, D.D., was likewise Professor of History and of Intellectual Philosophy, and gave instruction in history remarkable alike for its quantity and quality, at a time when the study was hardly recognized in American colleges.

Dr. Ballou was succeeded in the presidency by the Rev. Alonzo Ames Miner, D.D., LL.D., who was inaugurated in 1862, and continued in office until 1875, resigning in February of that year. Dr. Miner's incumbency was marked by large financial additions to the College, and by the further growth of a broad and scholarly spirit.

In March, 1875, the Rev. Elmer Hewitt Capen, D.D., was elected to the presidency of the College, vacated by the resignation of President Miner, and he was inaugurated on the second day of June. Dr. Capen's administration, which was characterized by the expansion of the College to university proportions, and was marked by the material and intellectual advance of all departments, was terminated by his death, March 22, 1905.

Rev. Frederick William Hamilton, D.D., LL.D., was appointed Acting President in 1905, was inaugurated as President, June 19, 1906, and resigned in 1912.

From July, 1912, to November 15, 1914, Prof. William Leslie Hooper, A.M, PH.D., was Acting President.

At a meeting of the Trustees held September 17, 1914, Hermon Carey Bumpus, PH.D., SC.D., LL.D., was elected President.

The Engineering courses were begun in 1869 with a department of Civil Engineering. The great development of electrical science was promptly recognized, and a department of Electrical Engineering was opened to students in 1882, a professorship in the subject being established in 1890. This side of the college work had rapid development: in 1894 the field was broadened by the addition of a course in Mechanical Engineering, and in 1898 by one in Chemical Engineering. In these courses effort has always been made to give thorough practical training. The will of the late Henry B. Pearson, founding the Bromfield-Pearson School, and putting it into the

hands of the Trustees of Tufts College to administer, provided a thoroughly-equipped building for technical instruction, of great value in drawing, pattern-making, and in machine and forge work. The Bromfield-Pearson building was completed in the fall of 1894. Robinson Hall, completed in 1900, gives to the technical courses a modern building with every facility for their work. It was given in memory of the late Charles Robinson, LL.D., sometime President of the Trustees, by his heirs.

In 1881 the late Phineas T. Barnum gave fifty-five thousand dollars for the establishment of the Barnum Museum of Natural History, and by his last will he bequeathed forty thousand dollars more. The main Museum building was completed in 1884. The west wing, containing the new biological laboratories, was erected in 1894. The years 1882 and 1883 saw the completion of Goddard Chapel, given by Mrs. Mary T. Goddard as a memorial of her husband, the first treasurer of the College. Goddard Gymnasium, a gift from the same source, was also completed in 1883. The gymnasium has been enlarged and transformed into what is practically a new building. Dean Hall was erected in 1887 from funds bequeathed by the late Oliver Dean. In the college year 1894-95 two new buildings were opened, in addition to the west wing of the Barnum Museum. These were the Chemical building and Curtis Hall, containing students' rooms, class rooms, and the postoffice.

The gift of one hundred thousand dollars from Mrs. Andrew Carnegie secured the erection of an adequate library building, called the Eaton Memorial Library, which was begun in 1905, and put into active service in 1908.

The development of the College in its internal life has been the notable fact of recent years. In 1866 the degree of Bachelor of Philosophy was offered to students who should pursue a prescribed course of two years, the object being to provide for those who had been prepared only in English subjects. This course was maintained until 1875, when it was changed to a course of four years. The requirements for admission were then made the same as for the regular course, except that Greek

as a condition of entrance was omitted, and an amount of work in French or German, considerably less than its equivalent, was substituted. The degree of Bachelor of Philosophy has more and more fallen into disuse, in favor of Bachelor of Arts. In 1891 a new course of study, leading to the degree of Bachelor of Arts, was offered, with an entrance requirement believed to be fully the equivalent of the Greek, in two modern languages. This was one important step taken by the College toward the broadening of its opportunities, but it soon proved to be insufficient. In the fall of 1893 it seemed possible to take another step and to put into operation the present plan of work, which is believed to be an approach to a rational co-ordination and connection of the college and university systems. The principle which governed this adjustment of the College curriculum has been applied to the entrance requirements. There has been a steady growth for many years in the amount of work done, and in the number of departments of learning represented. Two new departments had been instituted in 1892, in response to the tendencies of educational development,—those of Biology and History. Departments of Music and Philosophy have since been added, the work in Political Science has been broadened, and provision made for the study of Public Law.

There were opened in 1895 courses of four years each in Biology, Chemistry, General Science, and Medical Preparatory work, leading to the degree of Bachelor of Science, and accessible to graduates of all good high schools. The course in Biology was withdrawn in 1905. Bachelors of Science may, if they desire, go on to the attainment of the degree of Bachelor of Arts.

In response to a pressing demand the College was, in the summer of 1892, opened to women on the same terms as to men. After seventeen years of trial, it appeared to both Trustees and Faculty that the interests of the sexes could be better served by separate instruction. The necessary amendments to the Charter were procured and, in the fall of 1910, Jackson College for Women was opened as an affiliated institution. Jackson College is under the direction of the Trustees and President of Tufts

College. It has a Dean who is a woman. Otherwise its Faculty is identical with that of Tufts. This arrangement assures to the students in Jackson every educational facility offered by Tufts under conditions more favorable than were formerly possible. In the fall of 1894 there was provided for the accommodation of women students, Metcalf Hall, the gift of Albert Metcalf, of Newton. Start House and Richardson House also offer home-like rooms for women students.

The Professional Schools.—The will of Mr. Packard required that a professor of Christian Theology should be maintained from the income of funds bequeathed by him. The Rev. Thomas J. Sawyer, D.D., was elected Packard Professor in 1869. This was the beginning of the Theological School. In 1882 the school had developed so that its Faculty received a definite organization. From the erection of West Hall until the completion of the separate buildings of the School, the western side of West Hall was occupied by the Divinity School. In 1892, by the gift of ex-President Miner, the School was provided with Miner Hall, containing the library, class rooms, chapel, and reception room; and at the same time, largely through the efforts of the Dean, the money was obtained to build Paige Hall, a dormitory for students of the Theological School.

In 1903 a five-year course was offered to students of divinity, combining subjects required for a proper professional equipment with studies that look toward liberal culture. This course is now arranged to cover six years. At its successful completion the degrees A.B. and B.D. are both awarded. There is also a four-year course, leading to B.D.

In 1906 the name of the Divinity School was changed to the Crane Theological School, in recognition of a gift of one hundred thousand dollars from the estate of the late Thomas Crane of New York, whose son, Albert Crane, '63, thus carried out the expressed purpose of his father.

In 1893 Tufts College met what seemed to be a need of the community by opening the Tufts Medical School. The growth

of the school in efficiency and numbers justified its institution. The course is four years in length. Women are admitted upon the same terms as men.

The Medical School found its complement in the Tufts Dental School, organized in 1899 by the absorption of the Boston Dental College, which was incorporated in 1868, and has a numerous body of alumni. The equipment, funds, and good will of this school passed to Tufts College.

Administration.—The control of the College is vested by the charter in a self-perpetuating body of Trustees, not to exceed thirty in number. As the College has matured the number of its alumni upon the Board of Trustees has steadily increased. To give the Alumni as a whole a direct representation in the administration, a Board of Overseers was instituted, which continued from 1899 till 1907. At this time an amendment to the college charter was passed by the Massachusetts legislature, permitting the election of a certain proportion of Trustees from and by the alumni themselves.

THE COLLEGE CHARTER

SECTION I. B. B. Mussey, Timothy Cotting, Richard Frothingham, Jr., their associates and successors, are hereby constituted a body corporate by the name of the Trustees of Tufts College, in Medford, and they and their successors, and such as shall be duly elected members of said corporation, shall be and remain a body corporate by that name forever. And for the orderly conducting of the business of said corporation, the said Trustees shall have power and authority, from time to time, as occasion may require, to elect a President, Vice-President, Secretary and Treasurer, and such other officers of said corporation as may be found necessary, and to declare the duties and tenures of their respective offices; and also to remove any Trustee from the same corporation, when in their judgment he shall be rendered incapable, by age or otherwise, of discharging the duties of his office, or shall neglect or refuse to perform the same; and also, from time to time, to elect new members of the said corporation; provided, nevertheless, that the number of members shall never be greater than thirty.

SEC. 2. The said corporation shall have full power and authority to determine at what times and places their meetings shall be holden, and the manner of notifying the Trustees to convene at such meetings, and also,

from time to time, to elect a President of said College, and such professors, tutors, instructors, and other officers of the said College as they shall judge most for the interest thereof, and to determine the duties, salaries, emoluments, responsibilities, and tenures of their several offices. And the said corporation are further empowered to purchase or erect, and keep in repair, such houses and other buildings as they shall judge necessary for the said College; and also to make and ordain, as occasion may require, reasonable rules, orders, and by-laws, not repugnant to the Constitution and Laws of this Commonwealth, with reasonable penalties, for the good government of the said College, and for the regulation of their own body; and also to determine and regulate the course of instruction in said College, and to confer such degrees as are usually conferred by colleges in New England; provided, nevertheless, that no corporate business shall be transacted at any meeting unless one-third, at least, of the Trustees are present.

SEC. 3. The said corporation may have a common seal, which they may alter or renew at their pleasure, and all deeds sealed with the seal of said corporation, and signed by their order, shall, when made in their corporate name, be considered in law as the deeds of said corporation; and said corporation may sue and be sued in all actions, real, personal, or mixed; and may prosecute the same to final judgment and execution by the name of the Trustees of Tufts College; and said corporation shall be capable of taking and holding in fee simple, or any less estate, by gift, grant, bequest, devise, or otherwise, any lands, tenements, or other estate, real or personal, provided, that the clear annual income of the same shall not exceed two hundred thousand dollars.*

SEC. 4. The clear rents and profits of all the estate, real and personal, of which the said corporation shall be seized and possessed, shall be appropriated to the endowment of said College in such manner as shall most effectually promote virtue and piety, and learning in such of the languages, and of the liberal and useful arts and sciences, as shall be recommended from time to time by the said corporation, they conforming to the will of any donor or donors in the application of any estate which may be given, devised, or bequeathed, for any particular object connected with the College.

SEC. 5. No instructor in said College shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges honors, or degrees of said College on account of the religious opinions he may entertain.

SEC. 6. The Legislature of this Commonwealth may grant any further powers to, or alter, limit, annul, or restrain any of the powers vested by

* The limitation as to income has been removed by statute.

this act in the said corporation, as shall be found necessary to promote the best interests of the said College, and more especially may appoint and establish overseers or visitors of the said College, with all necessary powers for the better aid, preservation, and government thereof.

SEC. 7. The granting of this Charter shall never be considered as any pledge on the part of the Government that pecuniary aid shall hereafter be granted to the College.

CHAPTER 632 OF THE ACTS OF 1910

AN ACT

TO AUTHORIZE THE TRUSTEES OF TUFTS COLLEGE TO MAINTAIN A SEPARATE COLLEGE FOR WOMEN

BE it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. The corporation known as the "Trustees of Tufts College" may establish and maintain for the education of women exclusively a college to be known as the "Jackson College for Women," and may appropriate and set apart for the maintenance thereof any funds now held by it designated by the donors to be for the education of women, and all property, real and personal, hereafter received by gift, grant, devise or bequest for that purpose.

SECTION 2. All the provisions contained in the act establishing the Trustees of Tufts College, and in the acts in amendment thereof, shall relate to the Jackson College for Women, so far as applicable thereto, except as provided in this act.

SECTION 3. The corporation may, in the name of Jackson College for Women, confer any of the degrees which it by law is authorized to confer: provided, however, that degrees so conferred in course shall be conferred exclusively upon women. It may also adopt and use upon diplomas and other written instruments issued in the Jackson College for Women, a seal of a design differing from the common seal of the corporation.

SECTION 4. Section two of chapter two hundred and fifty-five of the acts of the year nineteen hundred and seven is hereby amended so as to read: Section 2. All persons who for five years have held a degree from Tufts College or from Jackson College for Women, conferred in regular course, and all persons who have received from said colleges an honorary degree, shall be entitled to vote for said ten members. And any person who for ten years has held from said colleges a degree conferred in regular course shall be eligible to be elected a member of said corporation: provided, always, that at least seven of the ten members so elected by the Alumni shall hold from Tufts College the first degree in arts or sciences.

SECTION 5. This act shall take effect upon its passage.

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Russell Lecturer, 1915

ISAAC MORGAN ATWOOD, D.D., LL.D.	Canton, N. Y.
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DEPARTMENT OF
ARTS AND SCIENCES

REQUIREMENTS FOR ADMISSION

AND

GENERAL INFORMATION

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*The Faculty of Arts and Sciences consists of the Faculties of the School of Liberal Arts, the Engineering School, the Graduate School, and the Crane Theological School, constituting one body for the discharge of certain administrative functions.

Requirements for Admission

Candidates for admission to the Department of Arts and Sciences must have received adequate preparation in certain subjects falling in two groups, known respectively as the Primary and the Secondary Group. A unit represents a year's study in any subject in a secondary school, representing approximately a quarter of a full year's work.

The Primary Group

- English A, 2
- English B, 1
- *An Elementary Foreign Language, ancient or modern, 2
- History, 1
- Algebra, 1½
- Plane Geometry, 1.

Candidates for admission must present all the subjects of the Primary Group, and a certain part of the subjects of the Secondary Group, depending upon the degree in view. No subject offered in the Primary Group can be counted in the Secondary Group.

The Secondary Group

ELEMENTARY

- | | |
|--------------|-------------------------|
| Greek, 2 | Geology or Geography, 1 |
| Latin, 2 | Mechanical Drawing, 1 |
| French, 2 | Freehand Drawing, 1 |
| †German, 2 | Shop Work, ½ to 2 |
| Chemistry, 1 | Economics, ½ |
| Physics, 1 | Musical Appreciation, ½ |
| Botany, 1 | Music (Harmony), ½ |
| Zoology, 1 | |
| Biology, 1 | |

INTERMEDIATE ‡

- | | |
|-----------|-----------|
| Latin, 1 | German, 1 |
| French, 1 | |

*Candidates for the degree of Bachelor of Science in the courses in Biology, Physics, and Chemistry should present Elementary German.

Engineering students will find it an advantage to present both French and German.

†Any other foreign language in which systematic instruction has been received for a period of at least two years may, by special arrangement with the Department of Modern Languages, be counted for two units.

‡The credit for intermediate subjects, as here given, is in addition to the credit for the corresponding elementary subjects.

ADVANCED *

Greek, 1	Algebra, $\frac{1}{2}$
Latin, 1	Trigonometry, $\frac{1}{2}$
French, 1	Solid Geometry, $\frac{1}{2}$
German, 1	Counterpoint, $\frac{1}{2}$
History	Pianoforte, Voice, or Violin, $\frac{1}{2}$

Candidates for the degree of Bachelor of Arts or Bachelor of Divinity must submit, in addition to the subjects of the Primary Group, a selection of subjects from the Secondary Group aggregating $6\frac{1}{2}$ units, according to the valuation indicated above. Candidates for the degree of Bachelor of Science in the School of Liberal Arts must submit from the Secondary Group subjects aggregating $6\frac{1}{2}$ units, and candidates for the same degree in the Engineering School, subjects aggregating $5\frac{1}{2}$ units.

The following conditions are to be observed :

1. The $6\frac{1}{2}$ units for the course leading to A.B. must include those representing one advanced ancient language.
2. The $5\frac{1}{2}$ units for any course in Engineering must include $\frac{1}{2}$ unit in Solid Geometry.

Detailed information concerning the amount and character of the work demanded in preparation will be found on the following pages.

Detailed Statement of Requirements

Elementary English.

Three units.

Requirement for 1914

Preparation in English has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English compo-

*The credit for advanced subjects, as here given, is in addition to the credit for the corresponding elementary and intermediate subjects.

sition governing punctuation, the use of words, paragraphs, and the different kinds of whole composition, including letter-writing, should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise narration, description, and easy exposition and argument based upon simple outlines. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from the reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in recitations and in various exercises, whether oral or written.

The second object is sought by means of two lists of books, headed respectively *reading* and *study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages, both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads, and with their place in literary history.

READING (A)

Two Units.

The aim of this course is to foster in the student the habit of intelligent reading, and to develop a taste for good literature, by giving a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from which at least ten units are to be selected, two from each group. Each unit is set off by semicolons.

I. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; Virgil's *Æneid*. The Odyssey, Iliad, and *Æneid* should be read in English translations of recognized literary excellence.

For any unit of this group a unit from any other group may be substituted.

II. Shakespeare's Merchant of Venice; Midsummer Night's Dream; As You Like It; Twelfth Night; Henry the Fifth; Julius Cæsar.

III. Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; either Scott's Ivanhoe, or Scott's Quentin Durward; Hawthorne's House of the Seven Gables; either Dickens' David Copperfield, or Dickens' Tale of Two Cities; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; George Eliot's Silas Marner; Stevenson's Treasure Island.

IV. Bunyan's Pilgrim's Progress, Part I; The Sir Roger de Coverley Papers in the Spectator; Franklin's Autobiography (condensed); Irving's Sketch Book; Macaulay's Essays on Lord Clive and Warren Hastings; Thackeray's English Humourists; Selections from Lincoln, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and Letter to Horace Greeley, along with a brief memoir or estimate; Parkman's Oregon Trail; either Thoreau's Walden, or Huxley's Autobiography and selections from Lay Sermons, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Stevenson's Inland Voyage and Travels with a Donkey.

V. Palgrave's Golden Treasury (First Series), Books II and III, with especial attention to Dryden, Collins, Gray, Cowper, and Burns; Gray's Elegy in a Country Churchyard, and Goldsmith's Deserted Village; Coleridge's Ancient Mariner, and

Lowell's Vision of Sir Launfal; Scott's Lady of the Lake; Byron's Childe Harold, Canto IV, and Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV, with especial attention to Wordsworth, Keats, and Shelley; Poe's Raven, Longfellow's Courtship of Miles Standish, and Whit-tier's Snow Bound; Macaulay's Lays of Ancient Rome, and Arnold's Sohrab and Rustum; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa — Down in the City.

STUDY (B*)

One Unit.

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, or rhetorical structure, upon the exact meaning of words and phrases, the understanding of allusions, and the study of details (not neglecting formal grammar). For this close reading, a play, a group of poems, an oration, and an essay, are provided, as follows:

Shakespeare's Macbeth; Milton's L'Allegro, Il Penseroso, and Comus; either Burke's Speech on Conciliation with America, or both Washington's Farewell Address and Webster's First Bunker Hill Oration; either Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

Examination.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts, one of which may be taken as a preliminary, and the other as a final.

The first part of the examination will be upon ten units

*The important changes that went into effect with 1913 consisted of a greater emphasis upon formal grammar, rhetorical structure and, in the books under Group B, the study of details.

chosen, in accordance with the plan described above, from the lists headed *reading*; and it may include also questions upon grammar and the simpler principles of rhetoric, and a short composition upon some topic drawn from the student's general knowledge or experience. On the books prescribed for reading, the form of the examination will usually be the writing of short paragraphs on several topics which the candidate may choose out of a considerable number. These topics will involve such knowledge and appreciation of plot, character-development, and other qualities of style and treatment as may be fairly expected of high school students. In grammar and rhetoric, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors.

The second part of the examination will include composition and those books comprised in the list headed *study*. The test in composition will consist of one or more essays, developing a theme through several paragraphs, the subjects to be drawn from the books prescribed for *study*, from the candidate's other studies, and from personal knowledge and experiences quite apart from reading. For this purpose the examiner will provide several subjects, perhaps five or six, from which the candidate may select. The test on the books prescribed for study will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

In place of the examinations in Elementary English a candidate may offer the examinations of the College Entrance Examination Board in English A and B.

Requirements for 1915-1919

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence and appreciation.

Grammar and Composition.

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

Literature.

The second object is sought by means of two lists of books, headed respectively *Reading* and *Study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

READING (A)

Two units.

The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I:—

Group I. *Classics in Translation*.—The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the Aeneid. The Odyssey, Iliad, and Aeneid should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

Group II. *Shakespeare*.—Midsummer Night's Dream; Merchant of Venice; As you Like It; Twelfth Night; The Tempest; Romeo and Juliet; King John; Richard II; Richard III; Henry V; Coriolanus; Julius Cæsar*; Macbeth*; Hamlet*.

Group III. *Prose Fiction*. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobdingnag); DeFoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's Novels (any one); Jane Austen's Novels (any one); Maria Edgeworth's Castle Rackrent, or The Absentee; Dickens's Novels (any one); Thackeray's Novels (any one); George Eliot's Novels (any one); Mrs.

* If not chosen for study under (B).

Gaskell's *Cranford*; Kingsley's *Westward Ho!* or *Hereward, the Wake*; Reade's *The Cloister and the Hearth*; Blackmore's *Lorna Doone*; Hughes's *Tom Brown's Schooldays*; Stevenson's *Treasure Island*, or *Kidnapped*, or *Master of Ballantrae*; Cooper's *Novels* (any one); Poe's *Selected Tales*; Hawthorne's *The House of the Seven Gables*, or *Twice-Told Tales*, or *Mosses from an Old Manse*; a collection of *Short Stories* by various standard writers.

Group IV. *Essays, Biography, etc.*—Addison and Steele's *The Sir Roger de Coverley Papers*, or *Selections from the Tatler and Spectator* (about 200 pages); Boswell's *Selections from the Life of Johnson* (about 200 pages); Franklin's *Autobiography*; Irving's *Sketch Book* (about 200 pages), or *Life of Goldsmith*; Southey's *Life of Nelson*; Lamb's *Essays of Elia* (about 100 pages); Lockhart's *Life of Scott* (about 200 pages); Thackeray's *Lectures on Swift, Addison, and Steele in the English Humourists*; Macaulay's *Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederic the Great, Madame d'Arblay* (any one); Trevelyan's *Life of Macaulay* (about 200 pages); Ruskin's *Sesame and Lilies*, or *Selections* (about 150 pages); Dana's *Two Years before the Mast*; *Selections from Lincoln*, including at least the two *Inaugurals*, the *Speeches in Independence Hall* and at *Gettysburg*, the *Last Public Address*, and the *Letter to Horace Greeley*, together with a brief memoir or estimate; Parkman's *The Oregon Trail*; Thoreau's *Walden*; Lowell's *Selected Essays* (about 150 pages); Holmes's *The Autocrat of the Breakfast Table*; Stevenson's *An Inland Voyage*, and *Travels with a Donkey*; Huxley's *Autobiography*, and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*; a collection of essays by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of *Letters* by various standard writers.

Group V. *Poetry*. Palgrave's *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's *Golden Treasury* (First

Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (If not chosen for study under B); Goldsmith's *The Traveller*, and the *Deserted Village*; Pope's *The Rape of the Lock*; a collection of English and Scottish Ballads, as, for example, some Robin Hood ballads, *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick* and *Grahame*, *Sir Patrick Spens*, and a selection from later ballads; Coleridge's *The Ancient Mariner*, *Christabel*, and *Kubla Khan*; Byron's *Childe Harold*, Canto III or IV, and *The Prisoner of Chillon*; Scott's *The Lady of the Lake*, or *Marmion*; Macaulay's *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivry*; Tennyson's *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning's *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*, *The Italian in England*, *The Patriot*, *The Pied Piper*, "*De Gustibus*"—, *Instans Tyrannus*; Arnold's *Sohrab and Rustum*, and the *Forsaken Merman*; Selections from American Poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

STUDY (B)

One unit.

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

Group I. *Drama*.—Shakespeare's *Julius Cæsar*, *Macbeth*, *Hamlet*.

Group II. *Poetry*.—Milton's *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*; Tennyson's *The Coming of Arthur*, *The Holy Grail*, and *The Passing of Arthur*; the selections from Wordsworth, Keats, and Shelley in Book IV of *Palgrave's Golden Treasury* (First Series).

Group III. *Oratory*.—Burke's Speech on Conciliation with America; Macaulay's Two Speeches on Copyright, and Lincoln's Speech at Cooper Union; Washington's Farewell Address, and Webster's First Bunker Hill Oration.

Group IV. *Essays*.—Carlyle's Essay on Burns, with a selection from Burns's Poems; Macaulay's life of Johnson; Emerson's Essay on Manners.

Examination.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English, which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

The examination in literature will include:—

(a) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under READING (A), above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions.

(*b*) A test on the books prescribed for study, which will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works, and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

Elementary German.

Two units.

It is expected that the candidate will have studied the subject in a systematic course for two school years, each covering the equivalent of 120 sixty-minute periods, during which special attention will have been given to pronunciation and to writing from dictation, as well as to the use of clear and idiomatic English in translation.

The examination will consist of two parts:—

(*a*) The translation into German of easy English sentences, to test the candidate's knowledge of the following subjects: the declension of nouns, adjectives, and pronouns; the conjugation of weak and the more frequently recurring strong verbs; the prepositions and cases which they govern; the simpler uses of modal auxiliaries; the elementary rules of syntax and word order. Proficiency may also be tested by questions on these topics.

(*b*) The translation at sight of easy German prose. It is believed that the requisite facility may be acquired by the reading of from two to three hundred pages of easy German, with preference given to narrative style.

[The following list is made up from works suitable for reading in preparation for this examination; Anderson's *Bilderbuch ohne Bilder*; Arnold's *Fritz auf Ferien*; Baumbach's *Schwiegersohn*; Heyse's *Hochzeit auf Capri*; Storm's *Immensee*; Leander's *Träumereien*; Roth's *Ein nordischer Held*; Benedix, *Der Prozess*; Wilhelmi's *Einer muss heiraten*; Fulda's *Das verlorene Paradies*.]

In place of the examination in Elementary German a candidate may offer the examination of the College Entrance Examination Board in German A.

Intermediate German.

One unit.

It is expected that the candidate will have pursued, in addition to the work done in preparation for Elementary German, an additional year's work of 120 hours. He should thus have acquired the ability to translate with considerable facility ordinary prose, similar to that of the preparatory course, and to answer briefly in German questions asked in that language by the instructor. Oral practice and dictation should be continued in this third year and a somewhat thorough acquaintance obtained with the rules of syntax, particularly with the subjunctive and infinitive moods; attention should also be given to the simpler facts of word formation — roots, prefixes and suffixes.

The examination will consist of two parts: —

(a) The translation into German of a connected passage of simple English, paraphrased from some German text.

(b) The translation at sight of passages of ordinary German prose. It is believed that the requisite facility may be acquired by reading in addition to the amount stated for Elementary German, about four hundred pages of narrative and dramatic prose and verse.

[The following list is made up from works suitable for reading in preparation for this examination: Ebner-Eschenbach's *Freiherren von Gemperlein*; Gerstäcker's *Irrfahrten*; Hoffmann's *Historische Erzählungen*; Meyer's *Gustav Adolfs Page*; Riehl's *Burg Neideck und Fluch der Schönheit*; Freitag's *Aus dem Staat Friedrichs des Grossen*, and *die Journalisten*; Schiller's *Geisterseher*, *Neffe als Onkel*, and *Balladen*; Scheffel's *Trompeter von Säkkingen*.]

In place of the examination in Intermediate German a candidate may offer the examination of the College Entrance Board in German B.

Advanced German.

One unit.

This examination is open to candidates who have had the equivalent of a four years' course, with an average of 120 full hour periods per year. At the end of this course the student should be able to read, after brief inspection, any (save technical) modern German literature, if free from unusual textual

difficulties; to put into German a passage of simple English prose, or to write in that language a brief theme on some assigned topic within his range; and to answer in German questions relating to the lives and certain works of the authors studied.

The examination will consist of three parts:—

(a) The writing in German of a paragraph, original or translated.

(b) The translation into English of extracts from at least three distinctively different authors. It is believed that the requisite facility may be acquired by reading in addition to the amount mentioned under Intermediate German, about five hundred pages of good literature in prose and verse.

(c) An oral test of proficiency in hearing and pronouncing German.

[The following list is made up from works suitable for reading in preparation for this examination: Fouqué's *Undine*; Scheffel's *Ekkehard*; Ludwig's *Zwischen Himmel und Erde*; Freytag's *Soll und Haben*; Hauff's *Lichtenstein*; Goethe's *Dichtung und Wahrheit* (extracts), *Die neue Melusine*, *Hermann und Dorothea*; Lessing's *Minna von Barnhelm*, Schiller's *Wilhelm Tell*, *Jungfrau von Orleans*, *Geschichte des dreissig-jährigen Krieges* (third book); Grillparzer's *Sappho*; Kleist's *Prinz von Homburg*; Fulda's *Talisman*.]

In place of the examination in Advanced German, a candidate may offer the examination of the College Entrance Examination Board in German BC.

Elementary French.

Two units.

It is expected that the candidate will have studied the subject in a systematic course for two school years, each covering the equivalent of 120 sixty-minute periods, during which special attention will have been given to pronunciation and to writing from dictation, as well as to the use of clear, idiomatic English in translation.

The examination will consist of two parts:—

(a) The translation into French of easy English sentences to test the candidate's knowledge of the following subjects: the conjugation of the regular and the most frequently recurring

irregular verbs ; the forms and positions of personal pronouns ; the uses of the other pronouns and of possessive, demonstrative, and interrogative adjectives ; the variation of nouns and adjectives for gender and number (except rare cases) ; the partitive construction. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of a passage of easy French. It is believed that the requisite facility may be acquired by the reading of not less than three hundred and fifty pages of simple prose, with preference given to narrative.

[The following list is made up from works suitable for reading in preparation for this examination: The easier stories of Daudet, Verne, and Erckmann-Chatrian ; Foa's *Le petit Robinson* and *Contes Biographiques* ; Enault's *Le Chien du Capitaine* ; Malot's *Sans Famille* ; About's *Le Roi des Montagnes* ; Labiche and Martin's *La Poudre aux Yeux* and *Le Voyage de M. Perrichon* ; Sarcey's *Le Siège de Paris*.]

In place of the examination in Elementary French a candidate may offer the examination of the College Entrance Examination Board in French A.

Intermediate French.

One unit.

It is expected that the candidate will have passed, in addition to the work done in preparation for Elementary French, an additional year's work of 120 hours. He should thus have acquired the ability to translate with facility ordinary prose or verse similar to that of the preparatory course, and to answer briefly in French questions asked in that language by the instructor. Oral practice and dictation should therefore be continued in this third year, together with a more detailed study of syntax, particularly of the use of moods and tenses, and of word formation and common idiomatic phrases.

The examination will consist of two parts : —

(a) The translation into French of a connected passage of simple English.

(b) The translation at sight of passages of ordinary French prose or dramatic verse. It is believed that the requisite facility may be acquired by reading, in addition to the amount required

for Elementary French, not less than four hundred pages of prose and verse, preference still being given to narrative form.

[The following list is made up from works suitable for reading in preparation for this examination: About's stories; Daudet's *La Belle-Nivernaise*; La Brète's *Mon Oncle et mon Curé*; Loti's *Pêcheur d'Islande*; George Sand's *Les Maîtres Mosaïstes*; Mérimée's *Colomba*; Thierry's *Récits des Temps mérovingiens*; Thiers's *L'Expédition de Bonaparte en Egypte*; Vigny's *La Canne de Jonc*; Corneille's *Horace*; Molière's *L'Avare* and *Le Bourgeois Gentilhomme*; Racine's *Athalie*; Augier and Sandeau's *Le Gendre de M. Poirier*; Coppée's poems.]

In place of the examination in Intermediate French a candidate may offer the examination of the College Entrance Examination Board in French B.

Advanced French.

One unit.

This examination is open to candidates who have had the equivalent of a four year's course, with an average of 120 full hour periods per year. At the end of this course the student should be able to read at sight, with the help of a vocabulary of special or technical expressions, difficult French of not earlier than the seventeenth century; to write in French a short essay on some simple subject connected with the works read in preparation, and to take part in a simple conversation in French.

The examination will consist of three parts:—

(a) The writing in French of an original passage of at least 150 words on some assigned subject.

(b) The translation into English of extracts from at least three distinctly different authors. It is believed that the requisite facility may be acquired by reading, in addition to the amount mentioned under Intermediate French, from six hundred to one thousand pages of standard French, inclusive of works merely commented upon in class.

(c) An oral test of proficiency in hearing and pronouncing French.

[The following list is made up from works suitable for reading in preparation for this examination: Taine's *Origines de la France contemporaine*; Sainte-Beuve's *Causeries du Lundi* (Holt Ed.); Voltaire's *Prose*

(Heath Ed.); Balzac's *La Recherche de l'Absolu*; Dumas' *Les trois Mousquetaires* (Ginn Ed.); Pelissier's *Anthologie des Prosateurs français contemporains* (Paris, Delagrave Ed.); Racine's *Andromaque*, *Britannicus*, *Athalie*; Corneille's *Cinna* and *Polyeucte*; Molière's *Les Précieuses Ridicules*; Beaumarchais' *Mariage de Figaro*; Hugo's *Hernani* and *Ruy Blas*.]

In place of the above, a candidate may offer the examination of the College Entrance Examination Board in French BC.

Elementary Latin.

Two units.

The Latin reading shall be not less in amount than Cæsar, Gallic War, I—IV, and should be selected by the schools from Cæsar (Gallic War and Civil War) and Nepos (Lives). Candidates will be examined in translation at sight of passages from the above authors, also in grammar and composition.

In place of the examination for two units in Elementary Latin a candidate may offer the following examination of the College Entrance Examination Board:

New Requirements, 3.

Intermediate Latin.

One unit.

The Latin reading, without the prescription of particular authors and works, shall be not less in amount than Cæsar, Gallic War, I—IV, and Cicero, the orations against Catiline, for the Manilian Law, and for Archias; this reading should be selected from Cæsar (Gallic War and Civil War) and Nepos (Lives), Cicero (orations, letters, and *De Senectute*) and Sallust (*Catiline* and *Jugurthine War*).

Candidates will be examined in translation at sight of passages from Cæsar and Cicero. The vocabulary, constructions, and range of ideas will be suited to the preparation secured by the reading indicated above. There will also be an examination on the following prescribed reading: Cicero, orations for the Manilian Law and for Archias.

Or the requirement in poetry, as defined under Advanced Latin, may be offered as optional in place of the third year prose.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common

irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

In place of the examination for three units in Intermediate Latin a candidate may offer the following examinations of the College Entrance Examination Board:

New Requirements, 1, 2, and 4.

Advanced Latin.

One unit.

I. AMOUNT AND RANGE OF THE READING REQUIRED

1. The Latin reading, without regard to the prescription of particular authors and works, shall be not less in amount than Cæsar, Gallic War, I—IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, *Æneid*, I—VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and *De Senectute*) and Sallust (Catiline and Jugurthine War); Vergil (*Bucolics*, *Georgics*, and *Æneid*) and Ovid (*Metamorphoses*, *Fasti*, and *Tristia*).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS

1. *Translation at sight.* Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, *Æneid*, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily

with both these parts of the paper, or they will not be given credit for either part.

3. *Grammar and Composition.* See statement under Intermediate Latin.

In place of the examination for four units in Latin a candidate may offer the following examinations of the College Entrance Examination Board:

New Requirements, 1, 2, 4, and 5.

SUGGESTIONS CONCERNING PREPARATION

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and the position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

A written examination cannot test the ear or tongue, but proper instruction in any language will necessarily include the training of both. The school work in Latin, therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be more practised.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is

prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

Elementary Greek.

Two units.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course for two years. It will consist of two parts, which cannot be taken separately:—

(a) The translation at sight of passages of simple Attic prose.

(b) An examination on Xenophon's *Anabasis*, directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language.

Before taking the elementary examination the candidate should have read, in addition to the usual grammar work, at least four books of Xenophon's *Anabasis*, or an equivalent.

In place of the examination in Elementary Greek a candidate may offer the following examinations of the College Entrance Examination Board.

Greek A i and ii, B, and C.

Advanced Greek.

One unit.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course for three years. The two parts of the examination may be taken separately:—

(a) The translation at sight of an average passage of Homer; with questions on ordinary forms, constructions, and idioms, and on prosody.

(b) The translation into Attic prose of a passage of connected English narrative. The passage set for translation will be based on some portion of the Greek prose works usually read in preparation for college.

Before taking the examination in Advanced Greek the candidate should have completed at least four books of Xenophon's *Anabasis*, or their equivalent in Attic prose, and

six books of Homer's Iliad, or their equivalent in the Odyssey. It is recommended that Greek composition accompany all stages of the preparation, and that the pupil be practiced in reading Greek aloud from the beginning of the course.

In place of the examination in Advanced Greek a candidate may offer the following examinations of the College Entrance Examination Board.

Greek A i, B, C or CH, F, and G.

Elementary History.

One unit.

One of the following: —

1. The History of Greece and Rome. (a) The history of Greece to the death of Alexander, with due reference to Greek life, literature, and art, as treated in the histories of Botsford, Oman, West, or Myers. (b) The history of Rome to the accession of Commodus, with due reference to Roman literature and government. Such texts as those of Morey, Botsford, West, or Allen will indicate the character of the work desired.

While the periods indicated above will be accepted as satisfying the entrance requirements in ancient history, it is strongly recommended that the study of the history of Greece be continued to the conquest of Greece by Rome, and that the history of Rome be pursued to the fall of the Western Empire.

This does not necessarily imply any increase in the time devoted to Greek and Roman history.

2. The History of England. The history of England, with due reference to social and political development. The histories of Andrews, Larned, and Montgomery will indicate the character of the work expected.

3. The History and Government of the United States. Such texts as those of McLaughlin, Johnston, Channing, and Guitteau should be used.

It is recommended that all candidates for admission to the courses leading to the degree of A.B. or B.D. should offer Greek and Roman history.

The elementary requirement in history implies one year's

work of not less than five periods a week. A note-book of not less than fifty written pages, based upon three hundred pages of collateral reading, must be presented at the time of examination. Equivalents for the subjects named above will be accepted, but candidates desiring to offer substitutes must give notice to the Secretary of the Faculty at least one month previous to the time set for the examination. Work in the text-book should be constantly accompanied by collateral reading. The attention of teachers is called to the Report of the Committee of Seven, published by the Macmillan Company, New York, under the title, "The Study of History in Schools," and to the "History Syllabus for Secondary Schools" published by Heath and Co., Boston.

In place of any one of the examinations described above a candidate may offer any one of the four examinations in History of the College Entrance Examination Board.

Advanced History.

One of the following:—

1. The History of Greece and Rome, as described above, for those only who have offered English history or the history and government of the United States as primary subjects.
2. The History of England as described above, for those who have not offered English history as a primary subject.
3. The History and Government of the United States, for those who have not offered the History and Government of the United States as a primary subject.

Each of these subjects requires one year's study of not less than five recitation-periods a week. A note-book of not less than fifty written pages, based upon three hundred pages of collateral reading, must be presented at the time of the examination. Equivalents for the subjects outlined above will be accepted, upon due notice, as indicated above under Elementary History.

In place of any of the examinations in Advanced History a candidate may offer any one of the four examinations in History of the College Entrance Examination Board, provided that the

subject so offered has not been accepted for the Elementary History requirement.

Mathematics.

A knowledge of the metric system, and ability to perform accurately the ordinary processes of arithmetic, are presumed.

1. Algebra, through quadratic equations in one and two unknown quantities, problems depending on quadratic equations, the progressions, ratio and proportion, and the binomial theorem for positive integral exponents. *One and one-half units.*

2. Plane Geometry, including the usual theorems on straight lines, angles, rectilinear figures, circles, and regular polygons; similar triangles and proportion; construction; original exercises in demonstration; numerical problems in mensuration. *One unit.*

3. Advanced Algebra: Permutations and combinations; complex numbers and the graphical representation of sums and differences; determinants including the use of minors, and the solution of linear simultaneous equations; solution of numerical equations of higher degree and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes' rule of signs and Horner's method. Credit in Advanced Algebra is given only on examination. *One-half unit.*

4. Solid Geometry, including properties of straight lines and planes, dihedral and polyhedral angles; of projections, of polyhedrons, including prisms, pyramids, and the regular solids; of cylinders, cones, and spheres; of spherical triangles, and the measurement of surfaces and solids. *One-half unit.*

5. Plane Trigonometry, including the definition and relations of the six trigonometrical functions as ratios, proof of important formulæ, solution of trigonometric equations of a simple character, theory of logarithms and use of tables, solution of right and oblique plane triangles. *One-half unit.*

In the last three subjects, the school should insist upon the same amount of work and aim at the same standard of scholarship as the college requires in its courses in these subjects.

In place of the examinations in Mathematics a candidate may offer the examinations of the College Entrance Examination Board as follows :

Math. A for 1 ; Math. C for 2 ; Math. B for 3 ; Math. D for 4 ; Math. F for 5.

Physics.

One unit.

The unit in Physics consists of at least 120 periods of sixty minutes each. Time spent in the laboratory shall be counted at one-half its face value. The course of instruction should include : (1) The study of one standard text-book. (2) Individual laboratory work consisting of experiments requiring at least the time of 30 double periods. Each student should perform at least 30 experiments, so distributed as to cover as fully as possible the subject matter of the text-book.

In lieu of the presentation of the laboratory note-book, at the time of the examination, the candidate must present a certificate in the following form :

TEACHER'S CERTIFICATE

..... School
..... 19

I certify that has personally performed and properly recorded in a suitable note-book experiments in the physical laboratory of the School, during the year

The entire course has occupied time equal to periods of 60 minutes each, of which hours have been given to the laboratory work and hours to lecture and recitation work.

Signed

Teacher of Physics.

The teacher may here enter the final grade of per cent.

In place of the above, candidates may present the examination of the College Entrance Examination Board in Physics.

Chemistry.

One unit.

Preparation for this requirement presupposes a course in general inorganic chemistry (non-metals and metals) of not less than five periods a week for a year. The amount of class work should equal that in An Introduction to the Study of Chemistry, by Ira Remsen, and the experiments should be equivalent

to those in Remsen's Laboratory Manual. Time spent in the laboratory shall be counted at one-half its face value. The experiments must be performed by the student, and a certified laboratory note-book must be presented at the time of the examination.

In place of the above, candidates may offer the examination of the College Entrance Examination Board in Chemistry.

Biology, Botany and Zoology.

One unit each.

In Biology, Botany and Zoology the examiners give more weight to the character of the work and the development of scientific habits than to the time spent; but at least five periods a week for a year must be given to each subject presented, and of this at least a half should consist of laboratory work. Certified copies of laboratory note-books must be presented. The work should be in structural and physiological lines and should include a detailed study of at least ten types. While it is desirable that these types should represent the chief phyla of the plant and animal kingdoms, it is most important that through their study the student shall become familiar with the experimental or inductive method of work.

In place of the examinations in Biology, Botany and Zoology, candidates may offer the examinations in Biology, Botany and Zoology of the College Entrance Examination Board.

Geology or Geography.

One unit.

1. Geology: Le Conte's Elements of Geology or a book of equivalent grade, including a similar account of evolutionary theory.

2. Geography: Davis, or book of equivalent grade.

At least five periods a week for a year must have been given to the subject presented. There should have been some laboratory work and excursions. Certified copies of note-books of laboratory work and excursions must be presented.

In place of the examination in Geography, candidates may offer the examination in Geography of the College Entrance Examination Board.

Freehand Drawing.**One unit.*

Such a knowledge of the fundamental principles of perspective is required as shall enable the student to draw a simple geometric figure with or without the use of a model. Certified drawings from a systematic course must be submitted for approval and the student may be examined on all points in doubt.

In place of the above the candidate may offer the examination in drawing of the College Entrance Examination Board.

Mechanical Drawing.**One unit.*

Accuracy and neatness in drawing is of the first importance, and no amount of work will make amends for neglect in these respects. The student must be familiar with the use of ordinary instruments, and able to solve geometrical problems with accuracy and rapidity. He must have an elementary knowledge of projection, intersection and development, and should also be practiced in the drawing of the ellipse, the parabola, and the hyperbola. The suggested course is included in the first one hundred pages of Anthony's Elements of Mechanical Drawing. Certified drawings must be submitted for approval and the student may be examined on all points in doubt.

Shopwork.*

The following units are given for courses satisfactorily pursued in well organized and fully equipped manual training or technical high schools in which the broad foundations of manual and graphic culture are given. The elementary work in the several courses must be thoroughly covered, and no credit will be given for premature engineering work.

Joinery	<i>One-half unit</i>
Wood Turning and Elementary Pattern Making	<i>One-half unit</i>
Forging	<i>One-half unit</i>
Bench and Machine Metal Fitting	<i>One-half unit</i>

Details of the work required for preparation in the above courses may be obtained by application to the Department of Mechanic Arts.

* Not more than two units may be counted by any candidate in the subjects of Drawing and Shopwork.

Elementary Economics.

One-half unit.

Preparation for Economics presupposes that the candidate has studied the subject in a systematic course of at least three periods a week for one full year. Credit in Economics will be given only on examination. The examination will be based upon such text-books as Bullock's or Seager's Introduction to the Study of Economics. A knowledge of civics and, particularly, modern industrial history is of great value in supplementing the study of economic theory.

Music.

Entrance credit in Music is given only on examination. Not more than one unit in Music may be counted by any candidate.

(A) MUSICAL APPRECIATION.

One-half unit.

The examination will be adapted to the attainment of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate is expected to have (1) a general knowledge of the principal musical forms—song, classic dance, fugue, sonata (all movements), symphony—and of their historical development; (2) a general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Purcell, Handel, Gluck, Haydn, Cherubini, Weber, Rossini, Glinka, Mendelssohn, Schumann, Wagner, Verdi; (3) familiarity with certain designated works, the list of which may be had on application to the Department of Music. In the examination on these works, the candidate will be expected to identify characteristic portions of the works set, when played in any key by the examiner; and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform, nor to read from printed music.

(B) HARMONY.

One-half unit.

The examination will be adapted to the proficiency of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate should have acquired

(1) the ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass: these melodies will require a knowledge of triads and inversions, of diatonic seventh chords and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly-related keys; (2) analytical knowledge of ninth chords, all non-harmonic tones, and altered chords (including augmented chords). [Students are encouraged to apply this knowledge in their harmonization.]

It is urgently recommended that systematic ear-training (as to interval, melody, and chord) be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The student will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use.

(D) PIANOFORTE, OR (E) VOICE, OR (F) VIOLIN. *One-half unit.*

The examination in each of these subjects will consist of a test in theory, and a test in performance. The former will be conducted in writing, and will be adapted to the proficiency of those who have had one year's systematic training, with one lesson a week, or its equivalent. The candidate should have acquired:

A knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use; the ability to analyze the harmony and form of hymn-tunes and simplest pieces for the pianoforte, involving triads and the dominant seventh chord and their inversions, passing tones, and modulation to nearly-related keys; the ability to harmonize, on paper, in four vocal parts, melodic fragments involving the use of triads and the dominant seventh chord and their inversions in major keys.

As a basis of the test in performance, the candidate is to furnish a detailed statement from the teacher, showing the course of instrumental or vocal study pursued.

In place of the above, candidates may offer the corresponding examination of the College Entrance Examination Board: Music A, B, and D or E or F.

METHODS OF ADMISSION

Admission to Tufts College may be obtained by examination, by certificate, or by a combination of the two methods. Every candidate for admission must present a testimonial of good character from the Principal under whom he was prepared for college.

Admission by Examination

In June, 1915, the admission examinations of this College will be the examinations of the College Entrance Examination Board, of which Tufts College is a member. The examinations will be held during the week June 14-19, 1915.

All applications for examinations must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y., and must be made upon a blank form, to be obtained from the Secretary of the Board upon application.

Applications for examination at points in the United States east of the Mississippi River, also at Minneapolis, St. Louis, and other points on the Mississippi River, must be received by the Secretary of the Board at least two weeks in advance of the examinations, that is, on or before Monday, May 31, 1915; applications for examination elsewhere in the United States or in Canada must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 24, 1915; and applications for examination outside of the United States and Canada must be received at least five weeks in advance of the examinations, that is, on or before Monday, May 10, 1915.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon the payment of \$5.00 in addition to the usual fee.

The examination fee is \$5.00 for all candidates examined at points in the United States and Canada, and \$15.00 for all candidates examined outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board in June, is published about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

For the convenience of those who present the examinations of the College Entrance Examination Board, the following table of equivalents is presented:

TUFTS COLLEGE ENTRANCE SUBJECTS	COLLEGE ENTRANCE EXAMINATION BOARD EQUIVALENT
English A	English A
English B	English B
Elementary German	German A
Intermediate German	German B
Advanced German	German BC
Elementary French	French A
Intermediate French	French B
Advanced French	French BC
Elementary Latin	Latin I and B, or 3
Intermediate Latin	Latin I, B and C, or I, 2 and 4
Advanced Latin	Latin I, B, C, D, P and Q, or I, 2, 4 and 5
Elementary Greek	Greek A i and ii, B, and G
Advanced Greek	Greek A i, B, C or CH, F, and G
Elementary History	History, A, B, C, or D
Advanced History	History, A, B, C, or D
Mathematics	
Algebra	Mathematics A
Plane Geometry	Mathematics C
Advanced Algebra	Mathematics B
Solid Geometry	Mathematics D
Trigonometry	Mathematics F
Physics	Physics
Chemistry	Chemistry
Botany	Botany
Zoology	Zoology
Biology	Biology
Geology or Geography	Geography
Freehand Drawing	Drawing
Music, A, B, D, E, F	Music, A, B, D, E, F

Entrance examinations will be conducted at Tufts College in September. These examinations are held on the Saturday, Monday, and Tuesday preceding the beginning of the college year in accordance with the program printed in the calendar, page 4.

All candidates for examination in September are required to register at the office of the Registrar before taking their examinations. A fee of \$5.00 is charged all candidates for the September examinations. Those who subsequently enter the Department of Arts and Sciences will not be required to pay the registration fee.

At the regular examination those who will be candidates for admission to the Freshman class one year later may present themselves for examination in the subjects of the Primary Group, and in others in which their teachers may certify that they are adequately prepared.

Admission by Certificate

In place of examinations, certificates will be accepted from preparatory schools which have been approved by the New England College Entrance Certificate Board. All schools in New England which desire the certificate privilege should apply to the Secretary of the Board, Professor Frank W. Nicolson, Wesleyan University, Middletown, Conn., before April 1 of the year for which the certificate privilege is desired.

Applications for the certificate privilege for schools outside of New England should be made by the Principal on a blank provided for the purpose by the Registrar of the College. Applications should be received before April 1, in order that the school may be placed upon the approved list for the next academic year.

The academic diploma of the Regents of the State of New York will be accepted in satisfaction of the requirements for admission when such diploma covers the subjects required for entrance.

Credit in the following subjects, which are outside the ordinary preparatory school curriculum, is allowed only upon examination: Advanced Algebra, Economics, and Music.

Certificates showing that candidates have fulfilled the entrance requirements of another college or university in subjects required for admission to Tufts College will ordinarily be accepted for corresponding subjects.

Certificates should be in the hands of the Registrar of the College at least one month before the opening of the college year. Blank forms of certificates will be sent upon request to the Registrar, Tufts College, Massachusetts.

General Information

REGISTRATION

Every student is required to file at the office of the Registrar a plan of study for the term, on the opening day of the term.

The registration is made in triplicate on blanks furnished for the purpose, one copy to be kept on file by the Registrar, one by the Dean, the third to be used, in case of Freshmen, by advisers, and in case of special students and members of the upper classes, by major instructors. Each student also furnishes such data as are required by the Registrar for class lists. Registration is made for the first half-year in accordance with the following schedules:—

I. FOR STUDENTS IN THE SCHOOL OF LIBERAL ARTS, THE CRANE THEOLOGICAL SCHOOL, AND THE GRADUATE SCHOOL:

8.30–9 A.M. — All students registering for the first time as candidates for A.B. or B.S., or as special students, will pay the registration fee of five dollars at the Bursar's office, unless they have already paid an examination fee to the College.

9–11 A.M. — All students obtain blanks and file programs at the Registrar's office. Members of the three upper classes register in accordance with programs prepared at conference with major instructors held previous to June first.

9.15 A.M.—All students registering for the first time assemble in Room 4, Ballou Hall, for instruction concerning registration, and assignment to advisers.

Regular program appointments are in force on Friday.

II. FOR STUDENTS IN THE ENGINEERING SCHOOL:

9.30–10.30 A.M.—All students registering for the first time will pay the registration fee of five dollars at the Bursar's office, unless they have already paid an examination fee to the College.

10-12 A.M.—All students in this School obtain blanks and file programs at the Registrar's office.

Members of the three upper classes register in accordance with programs prepared at conferences during the June examination period.

11 A.M. — All Freshmen assemble in the chapel for instructions concerning registration, and information regarding courses.

Regular program appointments are in force on Friday.

Consultations concerning programs for the second half-year are held by appointments with advisers and major instructors previous to registration day. On the first day of the second term, between 9 and 11 o'clock, students file their individual programs. Recitations begin in accordance with the regular program on Tuesday, the second day of the term.

A registration fine of two dollars is imposed upon students who fail to register in person during the time prescribed above. This rule does not apply to students registering for the first time. Students are not recognized as members of classes until they have met all requirements of registration.

During the hours set apart for registration, instructors may be seen for consultation and for approval of plans of study, in rooms to be announced by posted bulletins.

PROGRAM LIMITATION

Plans of study are subject to the following regulations:

I. FOR STUDENTS IN THE SCHOOL OF LIBERAL ARTS AND THE CRANE THEOLOGICAL SCHOOL:

No Freshman shall take a program of more than sixteen term hours for the first half-year; nor shall a program of more than fifteen term hours be taken by any student who has received for the preceding half-year grade L in subjects aggregating three term hours, or grade C in subjects

aggregating more than six term hours; except that each student is permitted to take a program of eighteen hours in his Junior year, with the consent of his major instructor. But a student who has failed in a subject may repeat that subject, provided his program is not thereby increased to more than eighteen term hours.

A program in excess of eighteen term hours shall not be allowed except by special permission of the Faculty.

Physical Education is disregarded in the consideration of program limitation.

II. FOR STUDENTS IN THE ENGINEERING SCHOOL:

The Freshman program is prescribed. Permission to vary the Freshman program, to take a program in excess of eighteen term hours, or to take a subject out of course, must be obtained by petition to the Committee on Promotions.

CHANGES IN REQUIREMENTS

It is the policy of the Faculty not to introduce changes in requirements without due notice in the catalogue, and not to impose additional requirements upon classes already in college. Immediate changes in the curriculum and in the program may occasionally be necessary, and under such circumstances the Faculty reserves the right to make equitable adjustment for students already in college.

PROMOTIONS

All candidates for degrees are classified as Freshmen until they have removed all entrance conditions.

Candidates for the degree of Bachelor of Arts or Bachelor of Science in the School of Liberal Arts must have received, for promotion to the Sophomore class, a credit of not less than twenty-four term hours, and for promotion to the Junior class a credit of not less than fifty-seven term hours. To become a member of the Senior class, a student must have completed all the prescribed work, and have credit for not less than eighty-seven term hours.

Candidates for the degree of Bachelor of Science in the Engineering School must have received, for promotion to the

Sophomore class, a credit of not less than twenty-nine term hours; for promotion to the Junior class a credit of not less than sixty-four term hours; and for promotion to the Senior class a credit of not less than ninety-nine term hours.

GRADES OF SCHOLARSHIP

A student's rank is officially recorded by letters, as follows : **A**, excellent; **B**, good; **C**, fair; **L**, passed with low standing; **F**, work incomplete or unsatisfactory; **FF**, complete failure.

The mark **F** imposes a condition which must be removed at a date to be determined by the Committee on Promotions, on consultation with the instructor. In case a mark of **F** is not removed at the date thus determined, the entry will be changed to **FF**. The student must then discontinue any dependent subjects which he is taking, and can obtain a clear record only by repeating the subject in which **F** was given. The responsibility for the removal of the condition rests with the student, who is required to make the necessary arrangement with the instructor and to present at the office a statement from the instructor that the work has been accomplished.

Reports of the work of Freshmen are sent to parents after the first term. Reports for the year are sent in July to all.

MAJOR SUBJECTS

Every candidate for the degree of Bachelor of Arts or Bachelor of Science in the School of Liberal Arts shall choose a major subject before May fifteenth of the Freshman year.

A change of major subject may be made not later than the end of the Junior year, by vote of the Committee on Promotions on petition approved by the two major instructors concerned.

A second major subject may be granted not later than the end of the Junior year, under the same conditions.

HONORS

FINAL HONORS IN THE SCHOOL OF LIBERAL ARTS will be conferred at Commencement upon any member of the graduating class who shall have attained Grade A in approved subjects aggregating not less than eighteen term hours in a major department, and an average of Grade B in the collateral subjects. Subjects marked in the catalogue with an asterisk (*) will not count for Honors. Those marked with a double asterisk (**) will be counted for Honors only when special requirements, to be defined by the instructors, have been complied with. Final Honors will be conferred only upon recommendation of the head of the department in which Honors are desired.

HONORABLE MENTION IN THE SCHOOL OF LIBERAL ARTS will be made, at Commencement, of any student who has attained, during the two years immediately preceding graduation, Grade A in nine term hours and not less than Grade B in three additional term hours of approved work in one department. Subjects marked in the Catalogue with an asterisk (*) or with a double asterisk (**) are under the conditions explained above as applying to Final Honors.

Candidates for Honorable Mention are expected to report to the Office on or before May 1 the department or departments in which they look for such distinction.

FINAL HONORS IN THE ENGINEERING SCHOOL will be conferred at Commencement upon any member of the graduating class who shall have attained credits in his major department aggregating not less than eighteen term hours of Grade A and nine term hours of Grade B.

HONORABLE MENTION IN THE ENGINEERING SCHOOL will be made at Commencement of any student who has attained in any major department during the two years immediately preceding graduation, Grade A in nine term hours and not less than Grade B in six term hours.

The subjects open for Honors and Honorable Mention in the five major departments in the Engineering School are as follows: 45-1, 45-2, and 45-12 Applied Mechanics may be counted in any department; also, in the Civil Engineering department, all subjects in Civil Engineering (41) except 41-3 Surveying; in the Structural Engineering department, all subjects in Applied Mechanics (45) and Structural Engineering (47); in the Mechanical Engineering department, all subjects in Mechanical Engineering (51); in the Electrical Engineering department, all subjects in Electrical Engineering (61); and in the Chemical Engineering department, all subjects in Chemistry (35) except 35-1 General Chemistry.

ADMISSION FROM OTHER COLLEGES

Students who have pursued study in any other college of equal rank, and have been honorably dismissed therefrom, are admitted to Tufts College as unclassified students. They will not be assigned to a definite class until such time as the quality of their work in Tufts College shall have given basis for a rating. Such students must present satisfactory certificates showing the amount and character of work already accomplished, in order to obtain credit on a course of this College.

SPECIAL STUDENTS

Students who are not candidates for a degree, and who wish to pursue a special course of studies, in one or at the most two departments, will be admitted to the College, subject to the following regulations:—

1. Every Special Student shall choose a major department, and shall make up a plan of study under the direction and subject to the approval of the major instructor. If subjects are taken in two departments, they shall be allied.
2. The student shall satisfy the instructor in each subject included in the approved plan of study that he is able to pursue the work.
3. First-year Special Students are limited to sixteen program hours, and thereafter the same rules apply to them as to regular students.

4. A Special Student, on leaving College, shall be entitled to a certificate giving the grade attained in each subject pursued, and signed by the President and the Registrar.

TERMS AND VACATIONS

The year is divided into two terms. College exercises are suspended on certain dates in accordance with the program published at the beginning of the catalogue. An examination period of five days is held at the close of each half-year, during which time the daily class exercises are suspended.

Students are required to report in person at the Registrar's office within two hours after their last program appointment preceding each vacation of more than a single day, except at the mid-year period; and within two hours before their first program appointment following such vacation.

A fine of two dollars will be imposed on each student who shall fail to report as above provided. The regularly appointed registration of studies at the beginning of each term shall be construed as reporting in person.

ABSENCES

Students are required to notify the Registrar at the beginning of an absence from any cause involving more than three consecutive program appointments. This report may be made in advance, and should state the cause of absence and its probable duration. A similar report is to be made before entering upon college work after the absence.

These reports are for the information of the college authorities, and do not excuse the student from chapel attendance, nor from his obligations to the various instructors.

For the first failure to make such a report a fine of fifty cents shall be levied, and for each subsequent failure a fine of two dollars. In case of the absence of any student organization, notice may be given for all by one authorized representative.

No student organization shall be allowed to make engagements involving absence from college exercises unless such engagements are approved by the appropriate committee of the Faculty.

A report filed in accordance with these regulations shall not take the place of the required registration before and after vacations of more than a single day.

Absence from Examinations.—Students absent from examinations and requiring special examinations to make up for such absence are charged two dollars for each special examination.

OFFICE HOURS

The President may be found in his office in the morning from 8.45 to 9.45. The Dean of the School of Liberal Arts is in his office in Ballou Hall, and the Dean of Jackson College in her office in Miner Hall, throughout the forenoon, except for class engagements. The Dean of the Engineering School may be consulted at his office in the Bromfield-Pearson Building, between 11.00 and 1.00, and at other times by special appointments. The office of the Registrar is open every morning, from 8.45 to 1.00, and every afternoon except Saturday, from 2.00 to 5.00. The Bursar will be in his office in Ballou Hall during term time, Monday, Wednesday, and Friday mornings, from 8.30 to 12.00 o'clock, and on Tuesday and Thursday afternoons from 2.30 to 5.00.

RELIGIOUS OBSERVANCES

Goddard Chapel, erected in 1882-83, is the gift of Mrs. Mary T. Goddard, as a memorial of her husband, the late Thomas A. Goddard. Attendance upon morning prayers is required.

The RUSSELL LECTURE, established in accordance with a bequest of the late James Russell of Arlington, is delivered before the Trustees, Faculty, and students, by either a clergyman or a layman, on a subject prescribed by the testator.

Two subjects are presented, in alternate years.

The subject for 1915 is "*The Sufficiency of the Promises of the Gospel to meet the Reasonable Wants of Man both in Time and in Eternity.*"

The subject for 1914 was "*The Importance of Christian Faith and Belief in the Formation of the Character of the Good Citizen and the Good Man.*"

TUFTS COLLEGE STUDIES

A publication called "Tufts College Studies" has been established, as a means of presenting to the world the results of original work done in the different departments of the College. The numbers, which are issued as material is ready, are distributed to educational institutions and learned societies. The College desires to establish regular exchanges of these Studies with publishing institutions at home and abroad. Correspondence regarding exchanges should be addressed to the Librarian of Tufts College. Three volumes and two numbers of the fourth volume of the scientific series have been issued, and a single number of the English series. The editorial board of TUFTS COLLEGE STUDIES for the current year is made up of the President of the College and Professors Fay, Neal, Metcalf, and Rockwell.

ATHLETICS

The supervision of all athletic sports is vested in a Board of Directors of Athletics, consisting of nine members, three of whom are appointed from the Faculty, three from the Alumni, and three elected from the undergraduates. This board through its sub-committees controls the expenditure of all moneys, the hiring of coaches, the arranging of games, the eligibility of players, and generally seeks to raise all college sports to a level of genuine usefulness. The Director of the Gymnasium limits the candidates for college teams to those students who have shown by a physical examination that they are qualified to engage in strenuous exercise.

EXPENSES

The charge for instruction in the School of Liberal Arts is *one hundred twenty-five dollars* a year, or *five hundred dollars* for the full course.

The charge for instruction in the Engineering School is *one hundred and seventy-five dollars* a year, or *seven hundred dollars* for the full course.

A registration fee of *five dollars* is required of all students registering at Tufts College for the first time.

The tuition fees quoted above for the entire courses apply whether the courses are completed in three, four or more years.

In the case of students admitted to advanced standing, the fees will be based upon the amount of work done under the direction of Tufts College.

No part of the fees and charges for a term is returnable to the student if he leaves during the term.

Students in the chemical laboratories are charged for breakage, and not more than *four dollars* a term for chemicals used, according to the subjects taken. A fee of *four dollars and a half* a term is required for each laboratory course in the Department of Biology, and a fee of *four dollars* a term for each laboratory course in the Departments of Geology and Mineralogy.

Half room-rent, including heat, ranges from twenty-five to eighty dollars, in the several dormitories. Students furnish their own rooms. Any special damage done by students to college property is charged in the term bills. All damage to dormitories other than normal wear is charged to the occupants. Rooms in the college halls will be open for occupancy of students on and after the Wednesday of the week preceding the opening of the college year, and will be closed on the Wednesday after Commencement. Non-resident students in all departments, except the Medical and Dental Schools, are subject to a fixed annual charge of ten dollars.

Students may obtain the use of day-rooms in the dormitories by arrangement with the Bursar, on payment of a moderate fee.

Payment of tuition, room rent, and other charges in all departments of the College is made in advance for each half-year, on or before November first and March first, but a payment

of fifty dollars on the bills due November first will be required of all students on or before October first.

All college charges are payable to the Bursar, and all arrangements with regard to rooms are to be made with him. The Bursar must certify that all college charges have been paid before a student can receive his degree or a letter of honorable dismissal.

A student may be suspended or dismissed for failure to keep his bills promptly paid, or for other good and sufficient cause.

The College is the holder of a bed in the Somerville Hospital and its resident students in case of illness (except contagious diseases) are entitled to the benefits thereof without cost. Arrangements must be made through the college office.

The following estimates represent the fixed annual expenses, not including room-rent or the non-resident fee:—

	School of Liberal Arts	Engineering School
Tuition	\$125.00	\$175.00
Physical Education, including gymnasium and grounds and T.C.A.A. ticket	15.00	15.00
Reading-room	1.00	1.00
Board, \$4.50 a week, (36 weeks)	162.00	162.00
Total	\$303.00	\$353.00
Registration fee, at the beginning of the course	\$5.00	\$5.00

Special students in the School of Liberal Arts pay the initial registration fee and \$20.00 a term for each subject of three hours a week or less, together with the usual laboratory fees.

INSURANCE

Arrangements may be made through the Bursar's office whereby students in any of the dormitories can insure their personal effects, including books, furniture, and wearing apparel. The cost of such insurance is fifty cents for one hundred dollars for one year. Insurance is placed only in multiples of one hundred dollars; no risk is taken for less than one hundred dollars, and all premiums are payable in advance.

THE DORMITORIES

East, West, Dean, Paige, and Curtis Halls are arranged with convenient rooms in suites, are warmed by steam, lighted by gas or electricity, and have good modern plumbing. These halls provide rooms for two hundred and fifty men.

REGULATIONS CONCERNING COLLEGE ROOMS

The annual assignment of rooms will take place in the month of May, at a time appointed by the Bursar, due notice being given upon the official bulletin board. Students occupying any room may retain it for the following academic year by signing a new room-agreement. All rooms not thus provided for will be offered for rent to members of the three upper classes. Rooms not assigned at the annual allotment will be open for choice to members of the entering class, in the order of application.

The right to occupy a college room is given only to the student or students to whom it is assigned: neither exchanges nor transfers of rooms are allowed, except by consent of the Bursar. Room agreements are made for the college year.

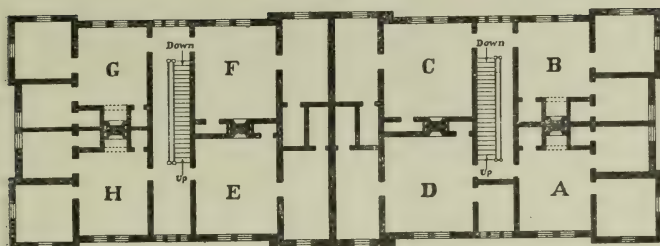
All rooms are for two students, except East 3, 12, 19, 22, 27, and 32, West 16½, and Curtis 4 and 12, and all rooms in Paige, which are for a single student each. Where more than two students occupy a room, the rent will be increased proportionately.

Each student receives his key on payment of fifty cents, which is refunded on the return of the key at the close of the college year.

The prices given for room rent in the lists below are for the whole room during the academic year, and include heat and care. The rooms are lighted with gas; Paige Hall has electricity also. Each suite is metered separately, and the occupants pay for the gas actually consumed. None of the rooms is furnished.

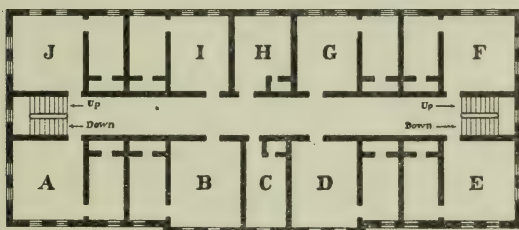
Room rent is in accordance with the following diagrams and prices:—

WEST HALL



FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	FOURTH FLOOR
A 1 . . \$128	A 5 . . \$160	A 9 . . \$140	A 13 . . \$96
B 2 . . 102	B 6 . . 128	B 10 . . 118	B 14 . . 80
C 3 . . 92	C 7 . . 100	C 11 . . 96	C 15 . . 74
D 4 . . 128	D 8 . . 150	D 12 . . 140	D 16 . . 96
E 17 . . 128	E 21 . . 150	E 25 . . 140	E 29 . . 96
F 18 . . 92	F 22 . . 100	F 26 . . 96	F 30 . . 74
G 19 . . 102	G 23 . . 128	G 27 . . 118	G 31 . . 80
H 20 . . 128	H 24 . . 160	H 28 . . 140	H 32 . . 96

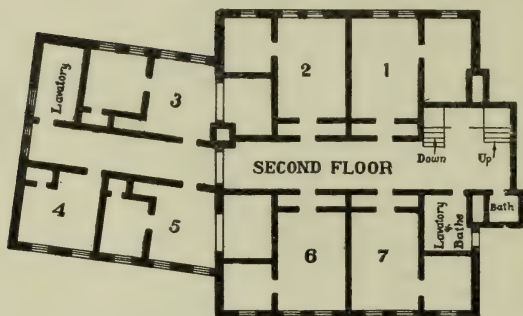
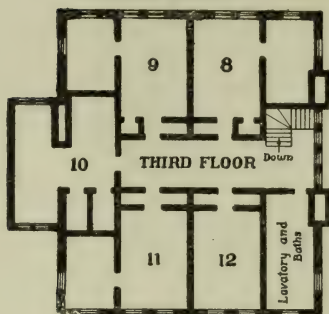
EAST HALL



EAST HALL

BASEMENT	FIRST FLOOR	SECOND FLOOR	THIRD FLOOR
A	A 6 . . \$ 96	A 15 . . \$110	A 25 . . \$102
B	B 7 . . 92	B 16 . . 110	B 26 . . 100
C	C	C 17 . . 43	C 27 . . 40
D	D 8 . . 92	D 18 . . 110	D 28 . . 100
E	E 9 . . 100	E 19 . . 118	E 29 . . 110
F 1 . . \$60	F 10 . . 100	F 20 . . 110	F 30 . . 100
G 2 . . 55	G 11 . . 80	G 21 . . 86	G 31 . . 80
H 3 . . 30	H 12 . . 40	H 22 . . 43	H 32 . . 40
I 4 . . 55	I 13 . . 80	I 23 . . 86	I 33 . . 80
J 5 . . 60	J 14 . . 86	J 24 . . 90	J 34 . . 86

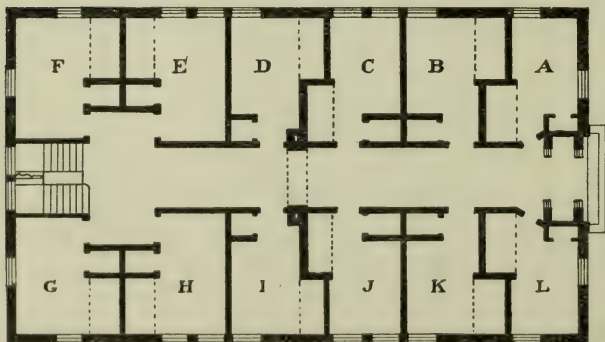
CURTIS HALL



1 . . \$80	4 . . \$ 50	7 . . \$85	10 . . \$85
2 . . 80	5 . . 100	8 . . 85	11 . . 85
3 . . 90	6 . . 85	9 . . 85	12 . . 45

Nos. 4 and 12 are single rooms.

PAIGE HALL

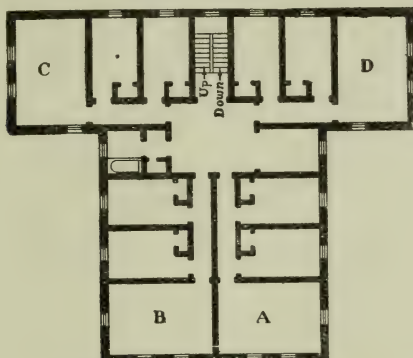


PAIGE HALL

(See previous page for plan)

In Paige Hall the plan of each floor is the same. From A to L, the rooms are numbered from 1 to 12 on the first floor; from 13 to 24 on the second, and from 25 to 36 on the third floor. The price for each room is \$75.

DEAN HALL



FIRST FLOOR	SECOND FLOOR	THIRD FLOOR	BASEMENT
A 1 . . \$160	A 5 . . \$160	A 9 . . \$160	A 13 . . \$85
B 2 . . 160	B 6 . . 160	B 10 . . 160	B 14 . . 85
C 3 . . 160	C 7 . . 160	C 11 . . 160	C
D 4 . . 160	D 8 . . 160	D 12 . . 160	D

SCHOLARSHIPS

Awards of scholarships are made by the Board of Trustees, on the recommendation of the Faculty. Applications for scholarships must be filed with the Registrar on blanks furnished for the purpose, on or before the first day of October; and, if the applicant be a minor, must be sanctioned by his parent or guardian. Grants of aid will apply only for the year in which granted, and will not in themselves be ground for continuance of assistance. If scholarship aid is desired during the following year, a new application must be filed.

All students desiring scholarships will be requested to file answers to specific questions on a blank provided for this pur-

pose. In the case of a new student this blank must be accompanied by a letter from the principal of the school last attended, containing a statement as to the applicant's character and especially as to his standing as a student. In order to enable students to make financial plans for their first year these papers may be filed during the summer vacation, and the applicant may, if there appears to be real need and good ability, receive assurance of aid for the first half of the Freshman year.

After the first half of the Freshman year, continuance of aid will depend upon the student's need and the grade of his work. Students are required to attain for graduation a grade of at least C in a certain proportion of their work. No student is considered eligible for scholarship aid who has, in the preceding year or term, failed to meet this requirement.

The following conditions must be strictly observed by the applicant :

(a) His expenditure must be moderate, and strictly in accordance with his declaration of limited means.

(b) He must be regular in attendance.

(c) He must be guilty of no behavior reflecting upon his moral character or subversive of good order in the College.

Applicants residing in college dormitories will be given preference over those residing at home.

Scholarships are available for those students only whose term bills are fully paid within ten days after such bills shall have become due.

The following scholarships have been founded in the College. Except in special cases, when the donor has otherwise stipulated, the Trustees will award scholarship aid in such sums as they may determine in each case.

THREE STATE SCHOLARSHIPS.—Established in accordance with a resolve of the Commonwealth.

FIVE HOWLAND SCHOLARSHIPS.—Established from the income of the bequest of the late Edwin Howland, of South Africa.

FIVE WALKER MATHEMATICAL SCHOLARSHIPS.—Established in honor of the late William J. Walker, M.D., of Newport, R. I., and payable from the income of the Walker Fund.

TWO MOSES DAY SCHOLARSHIPS.—Founded by the late Moses Day, of Roxbury.

THE A. A. MINER SCHOLARSHIP.—Founded by the late Alonzo Ames Miner, D.D., of Boston.

THE REBECCA T. ROBINSON SCHOLARSHIP.—Founded by the late Charles Robinson, LL.D., of Newton.

THE WILLIAM OSCAR CORNELL SCHOLARSHIP.—Founded by the late William Oscar Cornell, of Providence, R. I.

THE LAURA A. SCOTT SCHOLARSHIP.—Founded by Mrs. Laura A. Scott, of Ridgefield, Conn.

THE STOW SCHOLARSHIP.—Founded by the late Mrs. Eugenia D. Stow, of Meriden, Conn.

THE NORCROSS SCHOLARSHIP.—Founded by James A. and Mrs. Mary E. Norcross, of Worcester.

THE ANDERSON SCHOLARSHIP.—Founded by John M. Anderson, of Salem, in the name of John M. and Rebecca Anderson.

THE TRAVELLI SCHOLARSHIP.—Founded by Mrs. Emma R. Travelli, of Newton.

THE WHITTIER SCHOLARSHIP.—Founded by the late Charles Whittier, of Roxbury, in the name of Charles and Eliza Isabel Whittier.

THE TALBOT SCHOLARSHIP.—Founded by the late Newton Talbot, of Boston.

THE SIMONS MEMORIAL SCHOLARSHIP.—Founded by Mrs. Mary A. Simons, of Manchester, N. H., in memory of Hiram H., Augustus, and Frank Simons.

THE AMASA AND HANNAH L. WHITING SCHOLARSHIP.—Founded by the late Mrs. Hannah L. Whiting, of Hingham.

THE MARTHA GOLDTHWAITE MEMORIAL SCHOLARSHIP.—Founded by the late Willard Goldthwaite, of Salem.

THE ANDREW J. CLARK MEMORIAL SCHOLARSHIP.—Founded by Mrs. Abbie B. Clark, of Orange.

THE SARAH E. SAYLES MEMORIAL SCHOLARSHIP.—Founded by the late Albert W. Sayles, of Lowell.

THE COUSENS SCHOLARSHIP.—Founded by the late John E. Cousens, of Brookline, in the name of John E. and Sarah C. Cousens.

THE BENJAMIN F. SPINNEY SCHOLARSHIP.—Founded by Benjamin F. Spinney, of Lynn.

THE HENRY F. BARROWS SCHOLARSHIP.—Founded by Henry F. Barrows, of North Attleboro.

THE ELLERY E. PECK MEMORIAL SCHOLARSHIP.—Founded by the late Henry Rollins, of Bangor, Me.

THE J. H. MORLEY MEMORIAL SCHOLARSHIP.—Founded by Herbert Small Morley, of Templeton.

THE EDWIN H. CHAPIN MEMORIAL SCHOLARSHIP.—Founded by friends of the late Edwin Hubbell Chapin, D.D., in New York City.

THE THOMAS A. GODDARD MEMORIAL SCHOLARSHIP.—Founded by the late Mrs. Mary T. Goddard, of Newton.

THE HOSEA BALLOU, 2D, MEMORIAL SCHOLARSHIP.—Founded by the late Mrs. Mary T. Goddard, of Newton.

THE HENRY E. COBB SCHOLARSHIP.—Founded by the late Henry E Cobb, of Boston.

THE MARY ANN WARD SCHOLARSHIP.—Founded by Sylvester L. Ward of Boston.

THE MARIA P. WINN SCHOLARSHIP.—Established from a bequest of the late Mrs. Maria P. Winn, of Woburn.

THE JOSEPH D. PEIRCE MEMORIAL SCHOLARSHIP.—Founded by the children and other relatives of the late J. D. Peirce, D.D., of Attleboro.

TWO SIMMONS SCHOLARSHIPS.—Founded by the late Robert F. Simmons, of Attleboro, in the name of Mary F. and Robert F. Simmons.

THE JOSHUA S. AND HARRIET N. WHITE SCHOLARSHIP.—Founded by the late Joshua S. White, of Pawtucket, R. I.

THE JOHN B. PERKINS SCHOLARSHIP.—Founded by the late Ann Maria Perkins, of Medford.

THREE BARNARD SCHOLARSHIPS.—Founded by the late Mrs. Caroline M. Barnard, of Everett.

THE RICHARD PERRY BUSH SCHOLARSHIP.—Founded by the late Mrs. Caroline M. Barnard, of Everett.

THE BARTLETT SCHOLARSHIP.—Founded by the late Mrs. Nancy Bartlett, of Milford.

THE B. H. DAVIS SCHOLARSHIP.—Founded by the Rev. B. H. Davis, of Weymouth, for the benefit of students of the College of Letters who are preparing to enter the Christian ministry.

THE LATIMER W. BALLOU SCHOLARSHIP.—Founded by the late Latimer W. Ballou, of Woonsocket, R. I.

THE NATHANIEL WHITE SCHOLARSHIP.—Founded by Armenia S. White, of Concord, N. H.

THE LIZZIE P. ALLEN SCHOLARSHIP.—Founded by the late Lizzie P. Allen, of Derby Line, Vermont.

THE RHODE ISLAND SCHOLARSHIP.—Founded by several persons in Rhode Island.

TWO CHARLES AND FANNIE A. MINER BOOTH SCHOLARSHIPS.—Founded by the late Charles Booth, of Springfield, Vermont.

THE LUTHER GILBERT SCHOLARSHIP.—Founded by the late Mrs. Luther Gilbert, of Roxbury.

THE ORMSBEE CLASS SCHOLARSHIP.—Founded by Benjamin F. Smith, of Pawtucket, R. I.

THE JAMES M. AND EMILY COOK SCHOLARSHIP.—Founded by Henrietta J. States, of Boston.

THE WILLIAM H. SHERMAN SCHOLARSHIP.—Founded by the late William H. Sherman, of Cambridge.

THE DAVIS COOK SCHOLARSHIP.—Founded by the late Davis Cook, of Cumberland, R. I.

THE AUSTIN B. FLETCHER SCHOLARSHIP.—Founded by Austin Barclay Fletcher, of New York City.

THE JONAS CLARK WELLINGTON SCHOLARSHIP.—Founded by Mrs. Sarah C. Fisher Wellington, of Cambridge.

THE MARY L. GROCE SCHOLARSHIP.—Founded by the late Mary L. Groce, of Roxbury.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.—Founded by the late John Sprague, of Lowell.

THE MARY A. RICHARDSON SCHOLARSHIP.—Founded by the late Mrs. Mary A. Richardson, of Worcester.

TWO WARREN SCHOLARSHIPS.—Founded by the late Dr. Ira Warren of Boston.

FOUR HANNAH S. MOULTON SCHOLARSHIPS.—Founded by the late Hannah S. Moulton of Kensington, N. H.

TRUSTEE SCHOLARSHIPS.—A limited number of special scholarships of one hundred dollars each are available for needy students in the School of Liberal Arts who reside in college dormitories.

The following scholarships of fifty dollars each are awarded annually:—

THE A. A. MINER SCHOLARSHIP.—Founded by the late Alonzo Ames Miner, D.D., of Boston.

THE PERKINS SCHOLARSHIP.—Founded by the late James D. Perkins, of New Rochelle, N. Y.

THE MOSES DAY SCHOLARSHIP.—Founded by the late Moses Day, of Roxbury.

THE JOSEPH H. WALKER SCHOLARSHIP.—Founded by the late Joseph H. Walker, of Worcester.

THE GEORGE C. THOMAS SCHOLARSHIP.—Founded by George C. Thomas, of Philadelphia, Pa.

THE ALBERT W. SAYLES SCHOLARSHIP.—Founded by the late Albert W. Sayles, of Lowell.

THE LIZZIE P. ALLEN SCHOLARSHIP.—Founded by the late Lizzie P. Allen, of Derby Line, Vermont.

THE GEORGE STEVENS BALLARD SCHOLARSHIP.—Founded by the late Caroline D. M. Ballard, of Augusta, Me.

The following scholarships are awarded under special conditions:—

THE GREENWOOD PRIZE SCHOLARSHIP IN ORATORY.—Founded by the late Mrs. Eliza M. Greenwood, of Malden, and given to such student as shall have made, as the result of faithful work, together with at least a fair degree of attainment, the greatest improvement in Oratory.

THE WENDELL PHILLIPS MEMORIAL SCHOLARSHIP.—Founded to perpetuate the name, fame, and influence of Wendell Phillips. This scholarship is to be awarded to a student who has completed the Freshman and Sophomore years, and he is to have the benefit of it during the remainder of his course. The beneficiary must be of sound body, high character, and ability in declamation and debate, and must comply with certain special conditions, including participation in a competitive debate of the applicants at the end of the Sophomore year. The specific conditions governing the award of this scholarship may be obtained by those intending to apply therefor from the Secretary of the Faculty, to whom application should be made early in the Sophomore year. The income of this scholarship is at present seventy dollars.

THE MOSES TRUE BROWN SCHOLARSHIP.—A scholarship yielding fifty dollars annually, founded by the late Moses True Brown, of Sandusky, Ohio, formerly Professor of Oratory in Tufts College, for encouraging and assisting worthy students in the department of Oratory.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1898.—The sum of fifty dollars is given annually by the Class of 1898 to that Senior who at the end of the Junior year shall have maintained the highest excellence in a course of study broadly and wisely chosen.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1882. — The sum of one hundred dollars is given annually by the class of 1882 to that member of the College who best exemplifies the combination of ability in athletics and excellence in scholarship.

PRIZES

GODDARD PRIZES.—Three prizes of fifteen dollars each are assigned annually from the Goddard Prize Fund. In 1914-15 these prizes will be awarded in the departments of French, Political Science, and Chemistry, under the following conditions:

FRENCH.—A prize for that member of the class in French 4 who has done the most proficient work in the subject.

POLITICAL SCIENCE.—A prize for the best thesis by a student in Political Science on a subject to be approved by the head of the department. Theses prepared for courses will be accepted in competition.

CHEMISTRY.—A prize for that member of the class in Chemistry 35-2 who has done the most proficient work in Chemistry I and Chemistry 35-2.

RHETORICAL PRIZES.—Three prizes are awarded as follows :—

A first prize of forty dollars, a second prize of thirty dollars, and a third prize of twenty dollars. The preliminary competition will be open to all candidates for the degree of A.B. B.S., and B.D.

The rhetorical prizes are awarded by a committee, chosen by the Faculty, who judge the work presented by the competitors upon the public day appointed for that purpose. In order to enter the public competition, candidates, as well as their selections, must be approved by the Instructor in Oratory. A preliminary competition is held about ten days before the competition announced in the calendar, at which a committee of the Faculty determine the contestants in the final and public readings.

THE DE WITT C. TOMLINSON PRIZE SCHOLARSHIPS.—Founded by Rev. Irving C. Tomlinson, of Brookline, Mass.

Two prizes of thirty and twenty dollars respectively, for the two best essays on the subject of "The Ministry of Christ Jesus." The award of prizes must take into account (1) literary merit; (2) evidence of thorough study, clear insight, and unbiased understanding of the Biblical records of the ministry of Christ Jesus; (3) the treatment of the public and private ministration to those of his own time; (4) the treatment of the universal application of his ministry to all human needs, and (5) the treatment of the means by which the benefits of his ministry may be appropriated by his followers.

These prizes are open to Seniors in The School of Liberal Arts, the Engineering School, the Theological School, and Jackson College, and to members of the Graduate School. Details as to conditions of competition may be obtained at the Registrar's office.

The foregoing prizes are not awarded, unless in the opinion of the respective judges there is sufficient merit in the several contests to warrant their distribution.

A regular day has been appointed for the annual announcement of the award of prizes and the assignment of Commencement parts,—Wednesday of the week preceding the Thanksgiving recess.

COMMITTEE ON STUDENT EMPLOYMENT

It is the object of the committee on student employment to inform students concerning positions which may give regular occupation during available hours of term time, or which may be temporarily filled during the vacation periods. Students who wish to make application for any occupation should register their names, with a statement of their qualifications for any special work, with Professor WILLIAM H. REED, Chairman of the Employment Committee, Ballou Hall.

Buildings and Equipment

The College buildings are twenty in number. Ballou Hall contains recitation-rooms, and the offices of the President, the Dean, the Registrar, and the Bursar. Other buildings are Barnum Museum; Goddard Chapel; Miner Hall; Goddard Gymnasium; the Eaton Library; the Chemical Building; Jackson Gymnasium; three dormitories,—East Hall, West Hall, Dean Hall, for men; Curtis Hall, containing the post-office, class-rooms, and rooms for students; Metcalf Hall, and Start and Richardson Houses, for students of Jackson College. The Bromfield-Pearson School building is available for technical courses of the College. Two buildings, Packard Hall and Paige Hall, are devoted to the use of the Theological School. Robinson Hall provides for work in certain of the physical sciences. A power-house has been added, which supplies light, heat, and power to the engineering buildings.

EATON MEMORIAL LIBRARY

The new library building, erected through the gift of one hundred thousand dollars by Mr. Andrew Carnegie, is called the Eaton Memorial Library, in honor of the late Charles Henry Eaton, '74, former pastor of the Church of the Divine Paternity, New York City.

In all, about seventy thousand bound volumes and fifty-seven thousand pamphlets are available for use. The College regularly receives more than two hundred periodicals. By favor of the late Senator Hoar the library is a depository for government publications. In the library building a reading-room, maintained by the students, supplies the daily and weekly papers. The student fund also provides a number of the popular and the more technical magazines. Separate rooms have been provided with facilities for the use of students working in the departments of History and Public Law, the Ancient Languages, the Modern Languages, Music, English, the Fine Arts,

Philosophy, Political Science, Physics and Mathematics. The average annual increase by donation and purchase, for the last five years, has been about two thousand four hundred volumes.

In the general library is the collection of the Universalist Historical Society (six thousand volumes and several thousand pamphlets), to which, on application, students have free access. In Packard Hall is a selected reference library, for the use of theological students. In the Barnum Museum is the department library of Natural History, numbering more than thirty-three hundred volumes and over eight thousand pamphlets. The Metcalf Musical Library is divided between the music rooms in Goddard Gymnasium, where the scores are kept, and the department room in the Eaton Memorial Library, which contains the collection of English works relating to music. About four hundred representative musical compositions, in form for use upon the automatic instruments in the music rooms, are available to students.

The library is open to all members of the College daily except Sundays and holidays, from 8.00 A.M. to 5.30 P.M.

BARNUM MUSEUM

The Barnum Museum of Natural History was built in 1883-84 by the late Phineas T. Barnum, who gave the College a fund for its maintenance and for the addition of two wings to the central building. One of these wings has been erected. In addition to laboratory rooms, it affords space for the display of the mineralogical and geological collections.

The College is also indebted to Mr. Barnum for the larger portion of its zoological collection. This serves to illustrate all groups of the animal kingdom, and is especially rich in skeletons and mounted skins of mammals, the whole being well adapted for the purposes of instruction. The botanical collection consists of an herbarium containing a representation of the flora of New England, besides many specimens from Europe and the southern and western States. The geological collection contains representatives of the various types of rocks, as well

as of fossils from all formations. The mineralogical collection embraces fine examples of most of the species.

The laboratories and lecture-rooms of the department of Geology are in the main Museum building. The geological laboratory is provided with petrological microscopes, instruments for making rock sections, and other instruments. The mineralogical laboratory possesses the apparatus necessary for the determination of minerals, the analysis of ores, and assay work. The biological laboratories are in the main building and in the newly-erected wing. The laboratories for elementary work are furnished with all necessary facilities, while the laboratory for advanced and research work has all the appliances needed for investigation on the lines of anatomy, histology, and embryology.

The Barnum Museum is open for the inspection of visitors.

GODDARD GYMNASIUM

Goddard Gymnasium, the gift of Mrs. Mary T. Goddard, is well adapted to provide the prescribed class and individual work, and to furnish wholesome physical exercise for all. It is fitted with the apparatus usually seen in a good modern gymnasium, including facilities for light and heavy gymnastics, fencing, wrestling, basket ball, base ball, and the many indoor athletic sports. In the offices is a full set of anthropometric instruments for the physical examination of all students. There is a large gallery, with padded running track twenty-four laps to the mile. The dressing rooms, lockers, and baths are well lighted and commodious. The building is heated by steam and lighted by electricity.

The third floor is occupied by the department of Music.

ATHLETIC FIELDS

The old campus is just outside the gymnasium, and on it are tennis-courts, base-ball diamonds, a foot-ball field, and a board track. Its close proximity to the Gymnasium is of great advantage.

Tufts College Athletic Field is the large inclosed field on

College Avenue, where inter-collegiate contests are played. It includes two base-ball diamonds, a foot-ball field, and a quarter-mile, twenty-foot cinder track, for track athletics. Tennis-courts and a separate gymnasium are provided for women students, not far from Metcalf Hall.

While athletics are encouraged and generously supported by the College, they are made subsidiary to the requirements of the curriculum, thus safeguarding the best interests of the student.

CHEMICAL BUILDING

The building of the department of Chemistry contains laboratories for general inorganic, organic, analytical, and metallurgical chemistry, a large lecture-room, library, and weighing room, and the private laboratories of the professors in charge. The rooms are provided with modern laboratory conveniences, and are well supplied with apparatus and chemicals.

ROBINSON HALL

Robinson Hall is a memorial to the late Charles Robinson, and is designed for the use of the Engineering School. It contains the laboratories for the Departments of Physics and Electricity and some of the laboratory equipment for the Departments of Civil and Mechanical Engineering. Beside these laboratories there are recitation rooms, a lecture hall and offices for the instructors. The drafting rooms for the Civil and Structural Departments are also in this building. It is well lighted by electricity, and heated from an adjoining steam plant by direct and indirect methods.

BROMFIELD-PEARSON BUILDING

The Bromfield-Pearson Building is largely used by the Department of Drawing and Mechanic Arts. It contains the office of the Dean together with the library and offices of the Department of Mechanical Engineering. Abundant and uniform light is provided, and the drafting rooms are separated from the noise and confusion of the shops. One end of the building is used

exclusively by the pattern and machine shops, and both are well equipped with modern tools and facilities for conducting the class work in mechanic arts. Electricity from the college plant is used for lighting and power throughout the building.

THE POWER STATION

The Power Station is equipped with a one hundred and twenty-five horse-power boiler, which supplies heat and power to the engineering buildings. It is also piped and equipped for experimental work in steam engineering, and may be run by forced or natural draft. A Harrisburg Standard engine directly coupled to a direct current General Electric generator furnishes current for lighting, power, and experimental purposes.

LABORATORIES

The engineering laboratories that are located in Robinson Hall and the Power Station are well equipped for the experimental work prescribed in the curriculum.

The Civil Engineering Laboratories contain the Cement and Highway testing apparatus including abrasion machines for paving material and the necessary instruments and machines for testing cement and highway materials. The Hydraulic Laboratory is equipped with a 600 gallon Worthington duplex steam pump, a 300 gallon Lawrence centrifugal pump, steam pulsometer, Pelton water wheel and a Gould hydraulic ram. A 4500 gallon channel serves for supply and discharge from the several pumps and contains a rectangular and a triangular weir, together with the necessary apparatus, meters, gauges, etc., for the measurement of water. The surveying apparatus consists of nine transits, six of which are fully equipped and two are adapted to precise triangulation; seven engineers' levels representing various types and makes; three plane table outfits; sextants, hand levels, compasses, and a full complement of the usual auxiliary apparatus.

The Electrical Laboratories are well equipped for electrical testing. Alternating current power is obtained from the circuits

of the Edison Electric Illuminating Co., both three phase and single phase being used. The direct current power is obtained from the Tufts College power plant which contains both generators and a storage battery. The apparatus includes a great variety of portable instruments for the measurement of electro-motive force, current and power, together with numerous generators, motors, transformers and accessories for experimental work. A standard wattmeter, potentiometer, and Weston Laboratory Standard meters provide convenient means for checking the accuracy of the portable instruments. Connected with the laboratories is a photometer room with suitable equipment for measurements on standard types of lamp. A General Electric University Alternator, single and polyphase induction motors, transformers of various capacities, and other apparatus both standard and special are to be found in the dynamo laboratory. A number of the direct current dynamos specially adapted to experimental purposes have been designed and constructed by the students in the shops of the institution.

The Mechanical Engineering Laboratory equipment includes a Corliss engine with Admiralty condenser, a 15 Kilowatt Curtiss steam turbine and a variety of smaller engines, stationary and marine, of the plain slide valve, piston valve and riding cutoff valve types. There are gas and gasoline engines of from one to four cylinders representing a variety of makes. An automobile and motorcycle testing plant is also included in the equipment. Absorption and brake dynamometers are used for the measurement of power and other machines are provided for oil testing, compressed air and fan tests. The equipment includes a good assortment of indicators, calorimeters, gauges, etc., for the variety of measurement required in a power engineering laboratory.

An extension to this building provides accommodation for the forge shop and such of the equipment of the Mechanical Engineering Department as cannot be accommodated in Robinson Hall.

SCHOOL OF
LIBERAL ARTS

Faculty

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

FRANK G. WREN, A.M., DEAN

Walker Professor of Mathematics

WILLIAM H. REED, A.M., SECRETARY

Assistant Professor of Modern Languages

EDWIN C. BOLLES, PH.D., D.D., LL.D.

Dickson Professor of English and American History

CHARLES E. FAY, A.M., LIT.D.

Wade Professor of Modern Languages

WILLIAM G. TOUSEY, A.M., S.T.D.

Professor of Logic and Ethics

HINCKLEY GILBERT MITCHELL, D.D.

Professor of Hebrew and Old Testament Exegesis

RICHARD JONES, PH.D.

Professor of English Literature

LEE S. MCCOLLESTER, S.T.D.

Packard Professor of Christian Theology

ALFRED C. LANE, A.M., PH.D., SC.D.

Pearson Professor of Geology and Mineralogy

PHILIP GREEN WRIGHT, A.M.

Instructor in Political Science

EUGENE H. BABBITT, A.B.

Assistant Professor of Modern Languages

LEO R. LEWIS, A.M.

Professor of the History and Theory of Music

FRANK W. DURKEE, A.M.

Professor of Chemistry

HERBERT V. NEAL, PH.D.

Professor of Zoology

WILLIAM K. DENISON, A.M.

Professor of the Latin Language and Literature

FRED D. LAMBERT, A.M., PH.D.

Professor of Botany

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

WILLIAM R. RANSOM, A.M.

Professor of Mathematics

ALBERT H. GILMER, A.M.

Assistant Professor of English

KARL SCHMIDT, A.M., PH.D.

Professor of Philosophy

ARTHUR I. ANDREWS, PH.D.

Professor of History

PHILIP H. COBB, PH.D.*

Assistant Professor of Chemistry

WILLIAM FRANK WYATT, A.M.

Instructor in Greek

HENRY H. MARVIN, PH.D.

Assistant Professor of Physics

FRANK W. POTE, B.S.

Instructor in Physics

ALEXANDER DILLINGHAM, A.M.

Assistant Professor of Mathematics

NATHANIEL H. KNIGHT, B.S.

Instructor in Physics

JOSEPH CHANDLER, PH.D.

Instructor in Organic Chemistry

CROSBY F. BAKER, M.S.

Instructor in Chemistry

VANNEVAR BUSH, M.S.

Walker Special Instructor in Mathematics

JOHN LOUIS CHARLES KEEGEN, A.M.

Instructor in English and Assistant to Dr. Bolles

LOUIS RAYMOND BURNETT, M.D.

Instructor in Physical Education and Director of Goddard Gymnasium

Standing Committees

PROMOTIONS: Dean Wren, *Chairman*; Professors Durkee, Andrews, Denison, and Reed.

CURRICULUM: Dean Wren, *Chairman*; Professors Fay, Denison, Metcalf, and Durkee.

*Absent on leave.

Requirements for Graduation

Students may enter upon their work in the courses of liberal arts as candidates for the degree of Bachelor of Arts, or Bachelor of Science. In every case the ground of promotion and of graduation is the intellectual attainment of the individual student, not a fixed requirement of a certain number of years of study. Students determine the general direction of their work by their choice of course. They are thereby brought into personal advisory relations with their respective major instructors, under whose guidance they arrange their programs with reference to their individual needs and aims. All work actually accomplished by the student in regular standing counts toward the attainment of the degree.

SYNOPSIS OF THE REQUIREMENTS FOR GRADUATION*

(1) The requirement for the degree of Bachelor of Arts or Bachelor of Science is the satisfactory completion of subjects aggregating one hundred and twenty-two term hours, including physical education.†

(2) Students are required to attain for graduation a grade of at least C in seventy-two term hours.‡

(3) Upon the satisfactory completion of the aggregate requirement, the student is entitled to receive the Bachelor's degree, but no student will be granted a degree in less than four years of residence, unless he shall have obtained grade B as an average for his entire work.

* Each department offers a series of subjects for study. The unit indicating the requirements is the *term hour*, which represents a subject pursued one hour a week for one half-year. Thus a subject calling for three hours a week for one term represents a requirement of three term hours; if it calls for three hours a week for one year, or two terms, the requirement in that subject is six term hours.

†An acceptable Commencement part counts as an elective in the second half of the Senior year.

‡ For the meaning of grade C, see "Grades of Scholarship" under "General Information."

Courses of Instruction

The courses offered are as follows :

I. A general course, largely elective, leading to the degree of Bachelor of Arts.

II. Courses in Biology, Physics, and Chemistry, largely prescribed, leading to the degree of Bachelor of Science.

III. Eight courses arranged for students proposing to prepare for advanced study in certain lines, or to enter upon certain occupations. These courses lead to the degree of Bachelor of Arts for students who present an advanced ancient language for admission, and who choose their electives so as to fulfil the requirements for that degree ; others satisfactorily completing any one of these courses receive the degree of Bachelor of Science.

I. GENERAL COURSE LEADING TO THE DEGREE OF BACHELOR OF ARTS

The plan of study aims to furnish, in its prescribed subjects, the essentials of a liberal education, and at the same time a large opportunity for election.

The following subjects are prescribed :—

	TERM	HOURS
LANGUAGES (Latin, Greek, French, German : each student to take <i>three</i>)		18
ENGLISH		6
MATHEMATICS		6
PHYSICAL SCIENCE (Physics, Chemistry, Biology : each student to take <i>one, or two</i>)		12
MENTAL AND MORAL SCIENCE (of the three departments, Philosophy, Political Science, and History and Public Law, each student must take work in <i>at least two</i>) . . .		12
PHYSICAL EDUCATION		2
A total of		56

The requirements are by groups, not by special subjects, and in each group except English and Physical Education some choice is allowed the student.

A normal Freshman program includes English, Mathematics, an ancient language, a second foreign language, and a physical science, together with Physical Education. All Freshman programs are subject to the approval of the Committee on Promotions.

On or before May fifteenth of the first year the student is required to choose a major department in which he must complete, before graduation, work amounting to eighteen term hours. He may offer work already done in that subject in some one of the prescribed groups as a part of the eighteen hours which he is required to give to his major department, but no subject indicated in the catalogue as elementary can be counted in such work.

The student shall further complete eighteen term hours in subjects approved as collateral with his major subject; that is, subjects tending to strengthen and to assist his work in his major.

The remaining term hours of the required aggregate are to be made up by the election of the student from the various subjects offered, limited only by special restrictions applied to certain subjects.

II. COURSES IN BIOLOGY, PHYSICS AND CHEMISTRY

BIOLOGY

The course in Biology is designed to prepare students for positions as teachers of Biology in the secondary schools, or for graduate work in Biology.

FRESHMAN YEAR			
FIRST TERM		SECOND TERM	
English 1	3	English 2	3
Mathematics 3	3	Mathematics 1	3
German or French	3	German or French	3
Physics 1	3	Physics 1	3
Chemistry 1	3	Chemistry 1	3
SOPHOMORE YEAR			
FIRST TERM		SECOND TERM	
Biology 1	3	Biology 1	3
Chemistry 35-2	2	Chemistry 35-3	2
Physics 21	2	Physics 21	2
Physics Laboratory 24-7	1	Physics Laboratory 24-7	1
French or German	3	French or German	3
<i>Electives</i>		<i>Electives</i>	
English		English	
Mathematics		Mathematics	

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Biology 3	3	Biology 3	3
Chemistry 4	3	Chemistry 4	3
Geology 21	1	Geology 23	1
Geology 22	2	Geology 24	2
Political Science 1 or History 1	3	Political Science 1 or History 1	3
<i>Electives</i>		<i>Electives</i>	
Physics		Physics	
Chemistry		Chemistry	
Biology		Biology	
Mathematics		Mathematics	
Modern Language		Modern Language	
Philosophy 55		Philosophy 55	

SENIOR YEAR

FIRST TERM		SECOND TERM	
Biology 7 and 12	3	Biology 7 and 12	3
Chemistry 35-10	4	Chemistry 35-10	4
History 1 or Political Science 1	3	History 1 or Political Science 1	3
<i>Electives</i>		<i>Electives</i>	
Physics		Physics	
Chemistry		Chemistry	
Biology		Biology	
History or Political Science		History or Political Science	
Modern Language		Modern Language	
Philosophy 55		Philosophy 55	

PHYSICS

The course in Physics is intended to prepare students for positions as teachers of Physics, or for positions as assistants in Government or commercial laboratories. The course should be followed by those who wish to do graduate work in Physics.

FRESHMAN YEAR

FIRST TERM		SECOND TERM	
English 1	3	English 2	3
Mathematics 3	3	Mathematics 1	3
German or French	3	German or French	3
Physics 1	3	Physics 1	3
Chemistry 1	3	Chemistry 1	3

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
German or French	3	German or French	3
Mathematics 4	3	Mathematics 5	2
Chemistry 35-2	2	Chemistry 35-3	2
Physics 21	2	Physics 21	1
Physics Laboratory 24-7	1	Physics Laboratory 24-7	3
<i>Electives</i>		<i>Electives</i>	
English		English	
Drawing 21-1		Modern Language	
Modern Language		Biology	
Biology			

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Mathematics 6	3	Mathematics 10	3
Chemistry 4	3	Physics 6, or 9	3
History 1, or Political Science 1	3	Chemistry 4	3
Physics 2	3	History 1, or Political Science 1	3
<i>Electives</i>		<i>Electives</i>	
Mathematics 9		Mathematics 7	
Physics Laboratory 17		Physics Laboratory 17	
Mineralogy 1		Mineralogy 2	
Biology		Biology	

SENIOR YEAR

FIRST TERM		SECOND TERM	
Mathematics 14, or Physics 11	3	Physics 9, or 6	3
Chemistry 11	3	Chemistry 11	3
Political Science 1, or History 1	3	Political Science 1, or History 1	3
<i>Electives</i>		<i>Electives</i>	
Mathematics 12		Mathematics 14	
Physics Laboratory 17		Physics Laboratory 17	
Electrical Engineering 61-3		Electrical Engineering 61-10	
Chemistry		Chemistry	
Biology		Biology	

CHEMISTRY

Students who wish to specialize in Chemistry are advised to take the B.S. course in Chemistry. The subjects have been selected and arranged to prepare students for positions in metallurgical laboratories, as chemists with manufacturers or in analytical laboratories, or as assistant chemists for immediate service in the various departments of the United States government, and for teachers of Chemistry. It may also be followed by those who wish to teach or to do graduate work in Chemistry.

FRESHMAN YEAR

FIRST TERM		SECOND TERM	
English 1	3	English 2	3
Mathematics 3	3	Mathematics 1 or 2	3
Physics 1	3	Physics 1	3
German	3	German	3
Chemistry 1	3	Chemistry 1	3

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
German	3	German	3
Chemistry 35-2	2	Chemistry 35-3	2
Chemistry 4	3	Chemistry 4	3
Physics 21	2	Physics 21	2
Physics Laboratory 24-7	1	Physics Laboratory 24-7	1
<i>Electives</i>		<i>Electives</i>	
Mathematics		Mathematics	
English		English	
Biology		Biology	

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Chemistry 5	3	Chemistry 5	3
Chemistry 9	1	Chemistry 7	2
Chemistry 35-10	4	Chemistry 35-10	4
Political Science 1	3	Political Science 1	3
Mineralogy 1	3		
<i>Electives</i>		<i>Electives</i>	
German		German	
English		English	
Mathematics		Mathematics	
History 1		History 1	
Biology		Biology	
		Crystallography	

SENIOR YEAR			
FIRST TERM		SECOND TERM	
Chemistry 11	3	Chemistry 11	3
Chemistry 17	3	Chemistry 17	3
Thesis	3	Thesis	3
Geology 21	1	Geology 23	1
Geology 22	2	Geology 24	2
		Chemistry 8	2
<i>Electives</i>		<i>Electives</i>	
Biology		Biology	
Chemistry 12		Chemistry 12	
Political Science		Political Science	
Dynamo-Electric Machinery			

III. SPECIALIZED COURSES LEADING TO THE DEGREE OF BACHELOR OF ARTS OR BACHELOR OF SCIENCE

The following courses have been arranged for students who desire to begin preparation for a definite vocation. They are designed to give at the same time as much of the general training which every educated man should have as is consistent with their special purpose, and are intended to be followed by more definitely specialized training in a graduate school or in practical experience. Those who have presented an advanced ancient language for admission and choose their electives so as to fulfil the requirements of the A.B. degree, will receive that degree. Others satisfactorily completing the subjects indicated in one of these courses will receive the degree of B.S. The studies of the Freshman year are alike for all courses, so that a definite choice need not usually be made before the end of the first year.

FRESHMAN YEAR

[Alike for all the following courses]

FIRST TERM		SECOND TERM	
English 1	3	English 2	3
Mathematics 3	3	Mathematics 1 or 2	3
Natural Science	3	Natural Science	3
Two Foreign Languages, ancient or modern	6	Two Foreign Languages, ancient or modern	6

Note: Students intending to enter the Medical Preparatory Course should take Chemistry 1 as the Natural Science in this year.

BUSINESS

The need of systematic training of students contemplating a business career arises from the differentiation, specialization, and increasing complexity of modern business organization

and management. This course is in no sense intended as a substitute for experience; but it should impart organized knowledge, broaden the outlook, and train the student to analyze and to appreciate new situations as they arise.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . . .	3
Natural Science	3	Natural Science	3
History 1	3	History 1	3
Political Science 1	3	Political Science 1	3
Elective	3	Elective	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Political Science 2 or 4	3	Political Science 13	3
Political Science 6 or 10	3	Political Science 16 or 5	3
Philosophy 3	3	Philosophy 4	3
Public Law 1 or 4	3	Public Law 3	3
Elective	3	Elective	3

SENIOR YEAR

FIRST TERM		SECOND TERM	
Political Science 17 or 10	3	Political Science 17 or 10	3
Philosophy 55	3	Philosophy 55	3
Public Law 1, 4 or 10	3	Public Law 3 or 10	3
Elective	6	Elective	6

DIPLOMATIC AND CONSULAR SERVICE

For all except the highest posts in the diplomatic and consular service, appointees are now required to prove their fitness by examination. The following course, which emphasizes the study of Language, History, and Public Law, is designed to meet the requirements prescribed by the Department of State.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . . .	3
Natural Science	3	Natural Science	3
History 1	3	History 1	3
Political Science 1	3	Political Science 1	3
Elective	3	Elective	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
History 19 (or alternate)	3	History 20 (or alternate)	3
Public Law 1 (or alternate)	3	Public Law 3 (or alternate)	3
Philosophy 3 or Political Science 2 . . .	3	French 3B or German 3B	3
French 3B or German 3B	3	Elective	6
Elective	3		

SENIOR YEAR

FIRST TERM		SECOND TERM	
History 6 (or alternate)	3	History 7 (or alternate)	3
Political Science or Philosophy 3 . . .	3	Public Law 10 (or alternate)	3
Public Law 10 (or alternate)	3	History 15	3
History 15	3	Elective	6
Elective	3		

FORESTRY PREPARATORY

The Forestry Preparatory Course is intended to fit students to enter the best Forestry schools, and includes the subjects which are necessary to meet the requirements of those institutions. Within the last few years Forestry has become one of the most important professions, and the demand for trained foresters is greater than the supply.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . . .	3
Chemistry 1	3	Chemistry 1	3
Physics 21	2	Physics 21	2
Physics Laboratory 24-7	1	Physics Laboratory 24-7	1
Biology 1	3	Biology 1	3
History	3	History	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Chemistry 35-2	2	Chemistry 35-3	2
Biology 3	3	Biology 3	3
Drawing 21-1	5	Surveying 41-3	2
Surveying 41-3	1	Political Science 1	3
Political Science 1	3	Elective	6

SENIOR YEAR

FIRST TERM		SECOND TERM	
Geology 21	1	Geology 23	1
Geology 22	2	Geology 24	2
Biology 7	3	Biology 7	3
Elective	9	Hydraulics 41-43	3
		Highways 41-21	3
		Dynamo-Electric Machinery 61-3 . . .	3

JOURNALISM

This course, designed for students who intend to adopt Journalism as a profession, is not intended as a substitute for experience. It aims to give the general education which is essential for work in this profession, placing emphasis on subjects which give an understanding of the life of to-day, and those which develop the power of accurate and fluent expression.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . . .	3
English 11 or 12	3	English 11 or 12	3
Natural Science	3	Natural Science	3
History 1	3	History 1	3
Political Science 1	3	Political Science 1	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
History 3	3	History 3	3
English 17, 24, or 34	3	English 18, 34, or 36	3
Philosophy 3	3	Political Science 16	3
Public Law 1 or History 19	3	Public Law 3 (or alternate) or History 20	3
Elective	3	Elective	3

SENIOR YEAR

FIRST TERM		SECOND TERM	
Philosophy 8	3	Philosophy 8	3
Law (1 or 5)	3	Philosophy 55	3
Political Science 6	3	Elective	9
Philosophy 55	3		
Elective	3		

LAW PREPARATORY

The following course, which is arranged especially for students who are preparing to enter a law school, emphasizes the study of History, English, Economics, and Public Law. Among the more technical courses in Public Law, students may elect subjects which will enable them to test their fitness for the legal profession.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . . .	3
Natural Science	3	Natural Science	3
History 1	3	History 1	3
Philosophy 1	3	Philosophy 2	3
Elective (English or Pol. Science) . .	3	Elective (English or Pol. Science) . .	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
History 2 or 6	3	History 2 or 7	3
Public Law 1 (or alternate)	3	Philosophy 4	3
Philosophy 3	3	Public Law 3 (or alternate)	3
Elective	6	Elective	6

SENIOR YEAR

FIRST TERM		SECOND TERM	
History 6 or 2	3	History 7 or 2	3
Public Law 10 (or alternate)	3	History 15	3
History 15	3	Public Law 10 (or alternate)	3
Elective	6	Elective	6

MEDICAL PREPARATORY

The Medical Preparatory Course is intended to fit students for any medical school in the United States. The studies included are all of immediate importance in the professional training, and those of the fourth year, taken in the Tufts Medical School, complete the first year of the distinctively medical course. In this way it is possible to obtain the bachelor's and the doctor's degree in seven years.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . . .	3
Physics 1	3	Physics 1	3
Chemistry 35-2	2	Chemistry 35-3	2
Biology 1	3	Biology 1	3
History	3	History	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Physics 21	2	Physics 21	2
Physics Laboratory 24-7	1	Physics Laboratory 24-7	1
Biology 3	3	Biology 3	3
Chemistry 35-10	4	Chemistry 35-10	4
Philosophy 55	3	Philosophy 55	3
Elective	3	Elective	3

SENIOR YEAR

Corresponds to the first year of the Medical Course
(In Tufts Medical School, Boston)

ORGANIZED PHILANTHROPY

The following course in Organized Philanthropy has been arranged to fit the student for professional and volunteer social work, or to enter the professional schools which have lately been established in this field.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
German	3	German	3
Chemistry or Biology	3	Chemistry or Biology	3
History 1	3	History 1	3
Political Science 1	3	Political Science 1	3
Philosophy 1	3	Philosophy 2	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Political Science 2 or 10	3	Political Science 17	3
Political Science 6	3	Political Science 16	3
Political Science 17	3	Public Law 3 or 8	3
Public Law 1 or 5	3	Political Science 22 or 10	3
Elective	3	Elective	3

SENIOR YEAR

FIRST TERM		SECOND TERM	
Public Law 5 or 1	3	Public Law 8 or 3	3
Philosophy 8	3	Philosophy 8	3
Political Science 4 or 3	3	Political Science 5	3
Elective	6	Political Science 13	3
		Elective	3

TEACHING

This course is designed to give a broad training, with a reasonable opportunity for specialization, and to include in particular the subjects now required of teachers in many of the larger cities. Students intending to teach Language are advised to take Latin in the Freshman year, on account of its fundamental value in the study of other languages.

The attention of students intending to teach Science is called to the courses in Biology, Physics and Chemistry.

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
Philosophy 1 or 8	3	Philosophy 2 or 8	3
History 1	3	History 1	3
Natural Science	3	Natural Science	3
Foreign Lang., ancient or modern . . .	3	Foreign Lang., ancient or modern . .	3
Major Work	3	Major Work	3

JUNIOR YEAR

FIRST TERM		SECOND TERM	
Philosophy 55	3	Philosophy 55	3
Music 9 or 1	3	Music 10 or 21	3
Major and Elective Work	9	Major and Elective Work	9

SENIOR YEAR

FIRST TERM		SECOND TERM	
Education 1	3	Education 4	3
Major and Elective Work	12	Major and Elective Work	12

Departments of Instruction

MAJOR DEPARTMENTS

Any of the following may be chosen as major departments :

ENGLISH	POLITICAL SCIENCE
GERMAN	MATHEMATICS
FRENCH	PHYSICS
LATIN	CHEMISTRY
GREEK	BIOLOGY
PHILOSOPHY	
HISTORY AND PUBLIC LAW	

In the subjoined statement of the subjects offered in the different departments, the name of the major instructor is that given at the head of each department that offers major work. In other cases the name is given of the instructor in general charge of the department. When two or more names appear, major students will be guided by the usage of the department. Names of instructors in charge of each subject are appended to the brief statement of the subject itself.

Subjects that continue through only one half-year are indicated by letters in parenthesis : thus (F) means "first half-year," (s) means "second half-year." Subjects not so indicated extend through both terms.

Unless otherwise indicated, classes meet three times weekly and the credit is three term hours for each half-year.

Subjects enclosed in brackets are not offered during the current year. In many cases alternates are indicated, which fill their places in the program for this year. If less than four qualified students apply for an announced course, the instructor is permitted to cancel the announcement unless the course is a part of the required work for any student applying. Subjects marked with an asterisk (*) will not be counted for honors. Subjects marked with a double asterisk (**) will be counted for honors only when special conditions are complied with.

12 ENGLISH

PROFESSOR JONES

The work of the department of English includes composition and the study of literature. Subjects 1, 2, 4, and 23 give practice in one or another form of composition as the result immediately held in view, but written English is required also in many of the classes aiming primarily at literary study. See also subject 7. Subjects 1 and 2 are prescribed for all students. Major students in English are required to take English 11 or 12 in the earlier years of their course. Other subjects offer opportunity for practice in advanced composition, and for the study of eminent authors, of leading critical essays, of the development of English drama and fiction. English 10, 11, or 12 may be counted for honors, provided only one of these subjects is so counted.

SUBJECTS

*1. The Forms of Discourse. Exposition and Argumentation. Lectures, text-books, outside reading, themes, and conferences. (F)

ASSISTANT PROFESSOR GILMER AND PROFESSOR DAVIES

*2. The Forms of Discourse. Description and Narration. Lectures, text-book, outside reading, themes, and conferences. (S)

ASSISTANT PROFESSOR GILMER AND PROFESSOR DAVIES

4. Advanced Composition. Lectures, themes, conferences. (S)

ASSISTANT PROFESSOR GILMER

English 4 is open to those who have obtained at least Grade C in English 1 and English 2.

[7. English Versification. Study of the nature and the forms of poetry Composition. (S) — —]

**10. The English Bible.

PROFESSOR MCCOLLESTER

[**11. General View of English Literature. The study of representative masterpieces. Lectures, text-books, required reading, papers.

ASSISTANT PROFESSOR GILMER]

**12. American Literature. Lectures, required reading, text-book, essays.

ASSISTANT PROFESSOR GILMER

16. Milton and his Time. Lectures, readings, brief critical essays. (F)
PROFESSOR JONES
17. Shakespeare. Minute study of a few plays, lectures, quizzes.
(F) PROFESSOR JONES
18. Shakespeare. Reading of selected plays, lectures, brief critical essays. (s)
PROFESSOR JONES
- [19. The age of Chaucer. Study of forms and pronunciation, reading of selections from Chaucer and his contemporaries. — —]
- [20. Old English. Introduction to the language and literature of the Anglo-Saxons, with lectures on the origin and early development of the English tongue. Grammatical and literary study of select prose and poetical texts. — —]
- [21. The Principles of Criticism. Plato, Aristotle, Longinus, Quintilian, Burke, Lessing, Coleridge, Pater. (s) — —]
- [23. The Short Story. Examples, and composition. (F)
ASSISTANT PROFESSOR GILMER]
- [24. Poetry of the Nineteenth Century, except Tennyson and Browning.
(F) PROFESSOR JONES]
25. Development of the Drama. ASSISTANT PROFESSOR GILMER
- [26. Development of the English Novel, in the eighteenth and nineteenth centuries. PROFESSOR JONES]
29. Seminar. PROFESSOR JONES
English 29 is open only to advanced students of English.
34. Tennyson and Browning. Lectures, reading, brief critical essays.
PROFESSOR JONES
36. Thomas Carlyle. (s) PROFESSOR JONES

18 ORATORY

It is intended that the study of oratory shall benefit the student, whether or not he looks to public speaking as a part of his profession. Oratory 1 aims at securing intelligent, natural, and forcible speech. The principles that underlie good public speaking are pointed out, and applied in individual practice. Oratory 2 is not organically connected with Oratory 1, but offers practice in argumentation and debate to Sophmores, Juniors, and Seniors.

SUBJECTS

1. The Principles of Oratory. Enunciation and pronunciation: attitude and gesture; declamation; delivering of speeches, extempore and prepared; final original oration. (S) ASSISTANT PROFESSOR GILMER

[2. Argumentation and Debate. Text-book, papers, impromptu and prepared debate. Individual criticism. (F) ASSISTANT PROFESSOR GILMER]

For 1914-1915 students desiring this subject may elect 11-13 English in the Engineering School.

22 GERMAN

PROFESSOR FAY

The aim of the department is twofold, according as the student has entered with the elementary or a more advanced requirement. In the former case it is to lead him in the briefest possible time to such a mastery of the language as will enable him to use it as a source of information and medium of literary culture; where this preliminary work has already been done, to afford this literary culture itself, together with such historical and linguistic knowledge as may properly accompany advanced work in a literary department. Hence, in the elementary subjects, facility and accuracy of translation are sought by means of copious reading and careful grammatical drill; later the classic masterpieces are read for their own sake, together with such historical material as will throw light upon the epoch in which they were written or with which they deal; in the advanced work the systematic study of the history of the literature is undertaken, and opportunity is afforded for acquiring a knowledge of the earlier literary forms.

Six consecutive subjects are offered. While it is not impossible to take them all within the four college years, the scheme is based upon the supposition that the earlier subjects will have been taken in the preparatory school.

SUBJECTS

*1. Elementary German. The essentials of grammar, with composition. Reading of simple modern prose.

ASSISTANT PROFESSORS REED and BABBITT

German 1 is the equivalent of the entrance requirement in Elementary German.

*2. Intermediate German. Reading of modern prose, lyrics and ballads ; review of grammatical principles ; practice in writing German.

ASSISTANT PROFESSORS REED and BABBITT

German 2 is open to entering students who have presented Elementary German for admission.

**3. Course in advanced reading. Selected works from the literature of the eighteenth and nineteenth centuries.

PROFESSOR FAY and ASSISTANT PROFESSOR REED

German 3 is open to entering students who have presented Intermediate German for admission. Either half-year may be taken as a half-subject.

**3A German Composition, written and oral. *One hour a week.*

ASSISTANT PROFESSOR REED

German 3A is open to students who are at the same time taking German 3 or 4. It is not open to those who have taken or are taking German 3B.

**3B. German Composition, written and oral.

ASSISTANT PROFESSOR REED

German 3B is open to students who have satisfactorily passed German 3 or its equivalent.

4. Schiller and Goethe. Maria Stuart, Wallenstein ; Egmont, and selections from prose works of Goethe. Collateral reading. Dictation.

ASSISTANT PROFESSOR REED

German 4 is open to entering students who have presented Advanced German for admission. Juniors and Seniors whose major department is German may be permitted to take 4 and 5 in the same year.

5. Advanced reading in Lessing and Goethe. Nathan der Weise, Emilia Galotti, Laokoön ; Tasso, Iphigenie, Faust, Parts I and II, with collateral reading.

PROFESSOR FAY

6. History of German Literature, with illustrative works for leading epochs. Middle High German : Bachmann, Mittelhochdeutsches Lesebuch.

PROFESSOR FAY

32 FRENCH

PROFESSOR FAY

The plan and scope of the department are, in general, the same as those of the department of German, to the statement of which the student is referred. Six consecutive subjects are offered.

SUBJECTS

*1. Elementary French. The essentials of grammar, with composition, and the reading of short works of modern authors in prose and verse.

ASSISTANT PROFESSOR BABBITT

French 1 is the equivalent of the entrance requirement in Elementary French.

*2. Intermediate French. Review of grammatical principles, especially with reference to syntax; exercise in composition; vocabulary practice; reading of modern fiction and drama, such as Mérimée's *Colomba* and Sandeau's *Mademoiselle de la Seiglière*. PROFESSOR LEWIS

French 2 is open to entering students who have presented Elementary French for admission.

**3. Reading of modern authors (Taine or de Vigny, and novelists); introduction to seventeenth-century classics (Corneille, Racine, Molière, Boileau). Review of grammatical principles, with advanced vocabulary practice. PROFESSOR LEWIS and ASSISTANT PROFESSOR BABBITT

French 3 is open to entering students who have presented Intermediate French for admission. Either half-year may be taken as a half-subject.

**3B. French Composition. Translation from the English (Fontaine's *Prose*), later on from the German, the work being based on Ploetz' *Nouvelle Grammaire Française* and *Uebungen zur französische Syntax*. PROFESSOR FAY

French 3B is open to students who have completed French 3, or its equivalent, and at least one course in German.

4. Literature and Manners of the Seventeenth Century. Crane's *Société Française au XVII e Siècle*; Molière, *Le Misanthrope*, *Les Précieuses Ridicules*, *Les Femmes Savantes*; Boileau, *Les Héros de Roman*; Madame de Sévigné (selected letters); La Fontaine, *Fables* (selected); Warren's *French Prose of the XVIIth Century*; and selections from modern critics. PROFESSOR FAY

French 4 is open to entering students who have presented Advanced French for admission. Juniors and Seniors whose major department is French may be permitted to take 4 and 5 in the same year.

5. Literature of the Eighteenth and Nineteenth Centuries. The drama, poetry, the novel, the philosophical essay and criticism. Either half-year may be taken as a half-subject. PROFESSOR LEWIS

[6. Historical Grammar. Old French readings: *Chanson de Roland*; Villehardouin, Joinville. History of French Literature. Detailed study of some period, with illustrative texts. PROFESSOR FAY]

42 ITALIAN

PROFESSOR FAY

The work offered in Italian is open to those only who have had two years of college study in French, or its equivalent. With such previous training, the student should be able to acquire with

rapidity a reading knowledge of the language, and thus to become acquainted within the year with characteristics of contemporary and classic literature. This subject is presented in alternate years.

SUBJECT

1. Grandgent's Grammar and Composition; Maronini's Italian Reader; Maffei, *Merope*; Dante, *Divina Commedia* (Scartazzini's edition).

PROFESSOR FAY

52 LATIN

PROFESSOR DENISON

The aim of the department of Latin is to lead students to a thorough appreciation of a language and people that have had profound influence on modern life and literature. A wide range of reading is offered, to give opportunity for acquaintance with every important division of Latin literature. Considerable time is devoted to reading at sight. The attention of students is directed constantly to the history, archæology, art, public and private life, and religion of the Roman people, as well as to the formation and structure of their language and its relation to other languages. Due emphasis is laid on the connection between ancient and modern life and thought. The various reading courses are supplemented with lectures on appropriate topics, and are illustrated from time to time with the stereopticon. Courses 3, 4, 6, as well as all subjects in Classical Archæology, are suitable for graduate students. The authors and works named below may be changed, but are fairly indicative of the character of the work in the several subjects.

SUBJECTS

*1. Cicero, *De Senectute*, or selected letters; Vergil, *Eclogues*; Horace, *Odes*, Books i-iii; Livy, selections; reading at sight; lectures on suitable topics.

PROFESSOR DENISON

Latin 1 is introductory to all later subjects.

2. Pliny, selected letters; Horace, *Odes*, Book iv; Terence, *Phormio*; Apuleius, *Story of Cupid and Psyche*; Petronius, *Cena Trimalchionis*. This subject introduces the student to the early drama and also to the authors of the Silver Age.

PROFESSOR DENISON

Latin 2 is open to students who have completed Latin 1.

3. Juvenal, principal Satires; Martial, selected Epigrams; Cicero, *Dream of Scipio*; Tacitus, *Annals*; Catullus; reading at sight.

PROFESSOR DENISON

[4. Horace, Satires and Epistles; Plautus, one or two plays; Cicero, selected letters; Tibullus and Propertius; reading at sight.

PROFESSOR DENISON]

Subjects 3 and 4 will be given in alternate years, and are designed for those who have completed Latin 2, or its equivalent. They may, by special arrangement with the instructor, be taken as half-subjects in either half-year.

*5. Latin Composition. This course may accompany Latin 1 or be taken later in connection with other subjects offered by the department.
One hour a week.

PROFESSOR DENISON

6. Latin Composition. Latin 6 is open only to students who have completed Latin 5. In it particular attention is paid to idiom and style. By reason of the variation of the work from year to year, the subject may be taken a second time with due credit. *One hour a week.*

PROFESSOR DENISON

NOTE:—The attention of Greek and Latin students is called to related subjects listed under Classical History and Archæology.

62 GREEK

MR. WYATT

The aim of the department is to treat the Greek language not merely as a disciplinary instrument, but as a factor in the broadest and most liberal culture. Throughout the course the practice of reading at sight is encouraged, and especial effort is made to develop such facility that the student may resort with pleasure to the masterpieces of the Greek language, and find in them the delights and inspiration of a noble literature.

To this end also considerable attention is paid to the style and literary characteristics of the authors read. The relations of Greek to the Latin, German, and English languages are discussed, and the course is shaped to develop, discipline, and enrich the linguistic resources of the student. Reading without translation is encouraged from the beginning. Incidentally, studies are made of the customs and daily life of the people. Discussion relative to the laws, philosophy, and religion of the Greeks is introduced, and some attempt is made to exhibit the indebtedness of modern civilization to Hellenism.

SUBJECTS

- [*1. Elementary. Goodwin's Grammar; Xenophon, Anabasis; Homer. ——— ———]

Greek 1 is intended for students entering without Greek and wishing to begin the study of that language. It is assumed that their previous training in linguistic studies will enable them to proceed rapidly and accomplish in one year all the work usually done in preparation for college. This subject may be taken (without credit) as a normal course by advanced students, on consultation with the instructor. *Double course, six hours a week.*

2. Xenophon, Memorabilia; Homer, Odyssey; Euripides, one play.

MR. WYATT

Greek 2 is for students who have passed Greek 1, or the entrance requirements in Greek.

3. Herodotus, Books VII and VIII; Æschylus, The Persians; Sophocles, Antigone; Euripides, Alcestis.

MR. WYATT

- [4. Lyric and Elegiac Poets, to Pindar. Aristophanes: Clouds, Birds, Acharnians, Frogs, with study of social life in Athens in the fifth century B. C. ——— ———]

- [5. Theocritus, Idyls, with study of the Alexandrine age; Lucian; Homer, the Iliad, or the Odyssey, entire, with lectures on the results of the more recent investigations of the Homeric question. ——— ———]

Subjects 4 and 5 will be given in alternate years, and are designed for those who have completed Greek 3 or its equivalent. They may, by arrangement with the instructor, be taken as half-subjects in either half-year.

NOTE:—The authors and works enumerated under courses 2, 3 and 4 are not necessarily repeated each year, but are intended to give a general idea of the aim and scope of the courses.

- **6. Greek Composition; practice in sight reading. *One hour a week.*

MR. WYATT

Greek 6 may be taken by anyone who has had the equivalent of Greek 1.

- [7. Greek Composition; reading at sight. *One hour a week.* ——— ———]

Greek 7 is open only to students who have completed Greek 6.

NOTE:—No student can be recommended as a teacher of Greek who has not taken at least one subject in Greek composition.

28 CLASSICAL HISTORY AND ARCHÆOLOGY

Under Classical History and Archæology are grouped subjects of the Greek and Latin departments which deal, to a large measure in lecture form, with the art, history, life (both public and private), and religion of the Ancient Greeks and Romans. The work will consist of lectures, collateral reading and investigation, and papers. There will be illustration, wherever possible, with photographs, stereopticon, and specimens. The following subjects are intended to supplement the reading of classical authors, which naturally forms the basis of serious study in Classical History and Archæology.

SUBJECTS

- [1. Greek, Roman, and Etruscan Architecture. (F) PROFESSOR DENISON]

- [2. Greek and Roman Sculpture. (s) ——— ———]

Classical Archæology 1 and 2 will be given in 1916-1917.

3. Roman Private Life. (F) PROFESSOR DENISON

4. Greek Public and Private Life. (s) ——— ———

In subjects 3 and 4 there will be systematic treatment of such topics as birth, education, marriage, death, the house, furniture, dress, meals, amusements, careers and occupations.

- [5. Roman Religion and Public Life. (F) PROFESSOR DENISON]

In subject 5 special stress will be laid on the Roman Religion, but there will be systematic study of other topics such as the topography of Rome, political, legal and military institutions, measures and money, books, inscriptions, chronology and calendar.

Classical Archæology 5 will be given in 1915-1916.

- [6. Greek Mythology and Religion. The underlying principles of Greek religion will be considered. The Myths will be treated in their relation to ancient and modern literature and art. Lectures and text book (Fairbanks, Greek Mythology). (s) ——— ———]

7. Greek History. From the earliest times to the death of Alexander, with consideration of the sources. Textbook (Bury) and lectures. (F) ——— ———

8. History of Rome. From the beginnings of the City to the Fall of the Western Empire. Lectures, text book, recitations, study of the sources. (s) PROFESSOR DENISON

16 PHILOSOPHY*

PROFESSOR SCHMIDT AND PROFESSOR TOUSEY

Courses in the history of philosophy are unprofitable for beginners who have neither read the authors discussed in the text-books and lectures, nor formed any clear idea of the kind of problems with which philosophy deals; the department therefore does not offer elementary courses in the History of Ancient and Modern Philosophy. In their stead will be given an "Introduction to Philosophy," designed primarily to meet the needs of the general student who has not time for special work in philosophy and who yet needs a perspective of what philosophy is about and what kind of help it may give him. Incidentally the course will introduce the student to the classics in philosophy. Some of these works, chosen according to individual needs and predilections, will be studied under the guidance of the instructor. The "Introduction to Philosophy" need not precede the special courses in ethics, logic, psychology; but the student is advised to begin, whenever possible, with the introductory course.

[1. Introduction to Philosophy. Lectures, conferences and assigned reading. (F) PROFESSOR SCHMIDT]

Will be given in 1915-16.

[2. Introduction to Philosophy. Lectures, conferences and assigned reading. Open only to those who have passed Philosophy 1. (S)

Will be given in 1915-16. PROFESSOR SCHMIDT]

3. Logic. An elementary exposition of logic, in the modern sense of the word, of critique of cognition, structure of systems, and scientific methods. (F) PROFESSOR SCHMIDT

4. Logic. The "new" logic. An introduction to the calculus of classes and propositions; with applications. This course presupposes Philosophy 3. (S) PROFESSOR SCHMIDT

5. Psychology. An elementary lecture course. Normal human psychology will form the main subject of the course; but abnormal and supernormal phenomena will be studied in so far as they shed light on normal psychology. Lectures, illustrative experiments, conferences.

PROFESSOR SCHMIDT

*The three departments of Philosophy, History and Public Law, and Political Science constitute the group of Mental and Moral Sciences, in at least two of which twelve term-hours of work are required for the degree of A.B.

[17. Logic. Studies in argumentative literature, with the aim to bring logical theory into relation with the practical requirements of research, advocacy, and criticism; and to illustrate the principles governing the effective presentation of arguments. Use will be made of selected examples of reasoned discourse, supplemented by discussions, and constructive work by the student. (s) PROFESSOR TOUSEY]

Philosophy 17 is open only to those who have received credit in Philosophy 3.

8. Ethics. A critical survey of the evolution of ethical ideals, followed by a constructive theory. But the main emphasis of the course will be laid on the application of the theory to the problems of the modern world of action. PROFESSOR SCHMIDT

15. The Philosophy of Theism. The final problem; limits of the intelligence; final cause in nature; evidences of a moral order; theistic and anti-theistic argumentation; intuitivism. PROFESSOR TOUSEY

[16. Experimental Psychology. An elementary laboratory course; open only to those who either have finished or are taking the course in general psychology (55). Nine hours of laboratory work counting for three term hours. (s) PROFESSOR SCHMIDT]

Will be given in 1915-16.

26 EDUCATION

The courses in Education are of value for those pursuing general culture as well as for those intending to become teachers. They are arranged to meet the growing requirements of the best city school boards. Attention is called to the course of study outlined for teachers, as given under "Courses of Instruction."

Courses in Education do not belong to the group of Mental and Moral Sciences.

SUBJECTS

1. Principles of Education. Brief introductory study of the Educational Reformers. (F) PROFESSOR SCHMIDT

[2. Child Study. Child psychology; The relation of the school to child welfare including a discussion of such problems as school hygiene, backward children, juvenile delinquents and public play grounds; Principles of moral and religious education. (s) PROFESSOR SCHMIDT]

4. Educational Psychology. A study of the application of Psychology to the problems of education. Lectures, text-book, collateral reading and a thesis. (s) PROFESSOR SCHMIDT

This course presupposes a course in General Psychology.

36 HISTORY AND 46 PUBLIC LAW*

PROFESSOR ANDREWS AND PROFESSOR BOLLES

The department aims to develop the idea of unity in the history of mankind, and to make the study of all history of practical value through its relation to present-day problems and conditions. To this end the approach is made through subjects intended to give a thorough scientific knowledge of essential facts, and so arranged as to show these facts in their proper relations. History 1 is the introductory subject by which the student is prepared for more detailed work. History 6 and 7 supplement History 1 chronologically while History 19 and 20 do so geographically, being devoted to the study of Eastern and Southern Europe as History 1 is to Western. History 2 is devoted to the history of England, History 3 to the history of the United States. The subjects numbered from 4 to 20 offer to properly qualified students opportunity to make a more detailed study of limited periods. These subjects are arranged in series, which alternate with each other from year to year, and thus cover a considerable range. History 15 is devoted to research.

Students expecting to make History their principal study are urged to devote considerable time in their first and second years to the study of modern languages. In History 4, 6, 7, 8, 15, 19, and 20 a reading knowledge of French is assumed.

In the division of Public Law and Administration the object is to furnish such general knowledge of political institutions and their working as is needed by every intelligent citizen, and also to assist those who expect to enter the legal profession or the government service. The study of law and government is closely related to the study of history, and hence one year of history is advisable in preparation for the work in Public Law. The work in this group begins with a study of the political institutions of the United States, subjects dealing with the institutions of our own and of other countries, followed by subjects treating international relations. A knowledge of French is desirable, and in some cases indispensable.

* See note to introduction of the Department of Philosophy.

36 History**SUBJECTS**

1. The General History of Europe to the French Revolution. History 1 is an outline course, designed to give a comprehensive view of the various political, religious, industrial, and social factors in the history of Europe, and thus to pave the way for a more detailed study of limited periods. Text-books, lectures, assigned reading and thesis. PROFESSOR ANDREWS

History 1 and 2 will not be accepted for an advanced degree. Students desiring to take as many subjects as possible in the department should elect History 1 and 2 in their second year.

2. General History of England. Text-book, lectures, analyses, and themes. PROFESSOR BOLLES

3. General History of America. Text-book, lectures, analyses, and themes. PROFESSOR BOLLES

[4. The History of Europe during the period of the Renaissance and Reformation; the study of the Italian cities and the rise of Italian humanism; the religious, intellectual, economic, and political conditions which gave rise to the Protestant movement in the various countries. Text-books, lectures, assigned reading, and thesis. (F)

PROFESSOR ANDREWS]

[8. The History of Europe during the period of the Catholic Reformation, including the study of the Inquisition, the Jesuits, and the Council of Trent; the history of Spain to the peace of the Pyrenees; the affairs of Central and Eastern Europe; the development of France under Richelieu and Mazarin, and the causes, events, and results of the Thirty Years War. Text-book, lectures, assigned reading and thesis. (S)

PROFESSOR ANDREWS]

6. The French Revolution, the Napoleonic Period and the history of Europe to 1850. Text-book, lectures, assigned reading and thesis. (F)

PROFESSOR ANDREWS

7. Modern Europe, 1850-1913. One of the chief purposes of History 7 is to furnish some explanation of present-day questions in European politics. Assigned reading and thesis. (S)

PROFESSOR ANDREWS

[19. The History of the Nearer East from the earliest times to the beginning of the decline of the Ottoman Empire. This subject includes the history, religions, institutions and political and economic conditions of the countries and peoples in the Nearer East, including especially the Byzantine Empire, the Balkan Peninsula, Greece, Asia Minor, Egypt, and Northern Africa. Lectures, assigned reading, and thesis. (F)

PROFESSOR ANDREWS]

History 19 may be expected in 1915-16.


[20. The History of the Nearer East from the beginning of the decline of the Ottoman Empire to the present day. Special emphasis will be placed upon the present economic and political conditions. Lectures, assigned reading, and thesis. (s) PROFESSOR ANDREWS]

History 20 may be expected in 1915-16.

15. Seminar in History and Public Law. Investigation of selected topics from the sources. During the year 1914-15 the subject of study will be taken from the recent history of Europe. History 15 is open only to such students as receive the special permission of the instructor. *Hours and credit to be arranged with the instructor.* PROFESSOR ANDREWS

46 Public Law and Administration

SUBJECTS

 History 1 should precede or accompany any subject in Public Law but students may be admitted to classes by special permission of the department. Students desiring to take all the subjects in this group should elect History 1 in their second year, as well as Public Law 1 or its alternate.

[1. Political Institutions of the United States—Federal, State, and Municipal. A study is made of government from the standpoint both of constitutional arrangements and of its actual working as modified by usage and existing conditions. Political parties, their organization and history, together with the attempts made to regulate them by law, will be studied. Text-book, lectures, assigned reading and thesis. (F)

PROFESSOR ANDREWS]

Public Law 1 may be expected in 1915-16.

[3. Modern English Government. Detailed study of the actual working of the English Government. Attention will be given to the procedure of Parliament and its relation to the executive, to the administrative structure, the organization and influence of political parties, and colonial relations. Comparisons with American and Continental political conditions will be attempted. Text-book, lectures, assigned reading, and thesis. (s)

PROFESSOR ANDREWS]

Public Law 3 may be expected in 1915-16.

[8. Colonial Governments: The governments of colonies and dependencies throughout the world. Attention will be given to the history of modern colonization, to past and present experiments in administration, and to the international aspects of the colonial development of modern nations. Lectures, assigned reading and thesis. (s)

PROFESSOR ANDREWS]

4. European Government and Politics. A study of the constitutions of the chief European states, together with the consideration of the most important questions of European politics. A reading knowledge of French is desirable. Text-book, lectures, assigned reading, and thesis. (F)

PROFESSOR ANDREWS

10. International Law and Modern Diplomacy. The history of international law and the consideration of its leading principles and practices. Cases in modern diplomatic procedure will be cited. Text-book, lectures, assigned reading, and thesis.

PROFESSOR ANDREWS

66 POLITICAL SCIENCE †

PROFESSOR METCALF

In its course of instruction, the chief aim of the department of Political Science is to give a general view of the most important branches of economics, beginning with the elements of the science and passing by degrees to work of the investigative order. In addition to this broad general outline of economics, the courses and the methods of study are arranged with reference to the constantly increasing needs of those who are fitting themselves for various practical careers, such as banking, transportation, or mercantile work; and to those who look forward to social and philanthropic work as a profession. Subjects 13, 6, 16, 10 and 17, are especially designed as training for those who are planning for a business career, or for social and philanthropic work as a profession.

Subject 1 is designed to lay the foundation for the more advanced work, but endeavors at the same time to satisfy the wants of those who seek simply a general knowledge of economics. It is open to Freshmen. The character of the work in the advanced subjects is outlined in connection with the following statement.

SUBJECTS

*1. Elements of Economics. (a) Exposition of the fundamental principles of the production, distribution, exchange, and consumption of wealth. (b) The present organization and management of industry, trades unions,

† See note to introduction of the Department of Philosophy.

coöperation, profit-sharing, immigration, child labor, woman in industry, factory legislation, workingmen's insurance, socialism. Taussig's Principles of Economics will be used as a guide. Economics I does not count for honors.

PROFESSOR METCALF

Economics I, or its equivalent, is introductory to all the other subjects offered by the department.

2. Modern Industrial History of Europe. After a brief survey of the economic conditions in the European countries at the close of the Middle Ages, the chief attention will be given to the Industrial Revolution in England, and to the rise of modern industrial Germany. Lectures and recitations. (F)

MR. WRIGHT

22. Economic and Industrial History of the United States. Bogart's Economic History of the United States is used as a guide. (S)

MR. WRIGHT

3. Sociology. This course will be theoretical, dealing with the nature and scope of Sociology, its relation to other studies, especially to Philosophy, Ethics and Economics, with consideration of various theories of social progress. Lectures, discussions and assigned reading, principally from Gidding's Elements of Sociology. (F)

MR. WRIGHT

13. Practical Sociology. Concrete problems in the light of the laws of social science and principles of social progress. The family, history and modern methods of poor relief, criminology, penology, housing and city planning; public control, ownership, and operation of public service utilities; education for social efficiency; principles adapted to the work of social organizers; social and philanthropic work as a profession for men and women. (S)

MR. WRIGHT

[4. Principles of Public Finance. Public expenditures; classification of public revenues; recent reforms in taxation; the development and significance of public debts; financial administration; recent European and American works on finance. The Science of Finance, by Adams, is used as a guide. Lectures and discussions. (F)

MR. WRIGHT]

[5. Fiscal History of the United States: an historical course, with special reference to the financial experience of the United States. Leading topics are Hamilton's financial system; protection and revenue tariffs; the bank question; the fiscal policy of the Civil War; resumption of specie payments; the national banking system; state and local taxation; silver legislation and the panic of 1893; government loans; present currency problems. Dewey's Financial History of the United States is used as a guide. (S)

MR. WRIGHT]

6. Modern Industrial Combinations. The economics of corporations, with special reference to the so-called trust problem. Among the topics treated are trust promotion, capitalization, trusts and industrial efficiency, influence of combinations upon prices, profits, wages, rights of investors, international trade, industrial stability, and business honor; the practical results attained through publicity, taxation, recent court decisions, and State regulation. Lectures, recitations, and reports. Van Hise, Concentration and Control, is used as a text. (F) PROFESSOR METCALF

16. Modern Labor Problems. This subject deals mainly with the social and economic problems arising from the relations of employers and their laborers. The chief topics will be the growth, methods, and aims of modern associations of wage earners; methods of conciliation and arbitration; strike and factory legislation; employers' liability and recent compensation acts; compulsory publicity; provident institutions and friendly societies; the relation between trade unions and scientific management. Each member of the class will be expected to make a report upon a labor union. Carlton's History and Problems of Organized Labor is used as a text. Lectures and recitations. (s) PROFESSOR METCALF

[18. Transportation Problems. The economic, financial, and social problems arising from modern systems of transportation, with special reference to railway transportation, in the United States. The chief topics are brief historic survey of water and railway transportation; railway charters, powers of directors and stockholders, the nature of railway securities; railway traffic; fares, rate making, rebates, pooling and railway consolidations; the American systems of State railway commissions, the Interstate Commerce Commission, the recent extensions of Federal control; the effects of transportation systems upon industrial competition. A part of the time will be devoted to some of the more recent problems of electric railway development. A special report will be required from each student of the subject. Lectures and recitations. PROFESSOR METCALF]

Either half-year may be taken as a half-subject. .

17. Industrial Organization and Business Management. Brief survey of the evolution of modern capitalism; plant equipment; the concentration and integration of modern business; defects of the present industrial order; types of business administration and management; the causes and effects of industrial overstrain; the principles, goal, applications, results, and dangers of vocational guidance; what employer, employee, consumer, and trade unions gain through efficiency methods. Discussions of the literature of efficiency movements. Lectures, discussions, and thesis.

PROFESSOR METCALF

Either half-year may be taken as a half-subject.

7. The History of Economics: an account of the beginnings, the progress, and the various schools of economic science; study of the writings of Adam Smith, Ricardo, Mill, and others. Political Science 7 is open to advanced students who are specializing in the department. A reading knowledge of French and German is desirable. (s) PROFESSOR METCALF

9. Seminar in Economics and Sociology, designed for advanced students who are specializing in the department. Questions in economics, statistics, or sociology may be selected. *Hours and credit to be arranged.*

PROFESSOR METCALF

14 MATHEMATICS

PROFESSOR WREN AND PROFESSOR RANSOM

The aim of the instruction in mathematics is to cultivate power of exact thinking, as well as skill in symbolic methods of drawing necessary conclusions. The class-room work is a combination of lectures with questioning of the students to ascertain that the points presented have been duly comprehended.

Mathematics 3, with 1 or 2, constitutes the required work in mathematics. The two required subjects should be taken in the Freshman year. Students who intend to pursue advanced work in the department should take 1 in preference to 2, and should take 4, 5, and 6 in the Sophomore and Junior years. They may then elect any of the remaining subjects.

Subjects 8, 9, 10, and 12 are not all given in any one year. This group is intended for advanced students. The range of choice it permits may be further increased by the addition of introductory study in the Theory of Functions, or in Non-Euclidean Geometry.

SUBJECTS

3. Trigonometry. The trigonometric functions, trigonometric analysis, solutions of plane triangles and of right spherical triangles. (F)

PROFESSOR WREN, PROFESSOR RANSOM and MR. BUSH

1. Algebra. Binomial theorem, logarithms, permutations and combinations, probability, determinants, theory of equations, etc., preceded by a brief review of Elementary Algebra. (s)

PROFESSOR WREN and ASSISTANT PROFESSOR DILLINGHAM

2. Solid Geometry. Solid and spherical geometry including original demonstrations and the solution of numerical problems. (s)

PROFESSOR RANSOM and ASSISTANT PROFESSOR DILLINGHAM

4. Analytic Geometry. The straight line, circle, parabola, ellipse, hyperbola, higher plane curves, with an introduction to analytic geometry of three dimensions. (F) PROFESSOR WREN

5. Elements of Calculus. Differentiation and integration of the elementary forms of algebraic and transcendental functions with simple applications. (S) PROFESSOR WREN

6. Differential and Integral Calculus. A continuation of course 5, involving application to mechanics and to the theory of plane curves, the determination of lengths, areas and volumes, and a systematic treatment of integration. (F) PROFESSOR RANSOM

7. Advanced Calculus. A more critical examination of fundamental methods and their extension to complex quantities. Partial differentiation, line and surface integrals, and the more notable definite integrals. (S) PROFESSOR RANSOM

8. Modern Geometry. An advanced course in Plane Analytic Geometry involving analysis by means of homogeneous coördinates interpreting imaginary and infinite elements, and introducing the elementary geometric transformations. (S) ASSISTANT PROFESSOR DILLINGHAM

9. Theory of Equations and Determinants. Transformation of equations; cubic and quartic equations; applications of substitution groups; classification of linear simultaneous equations; properties of determinants. (F) ASSISTANT PROFESSOR DILLINGHAM

10. Differential Equations. An elementary course including the solution of ordinary and certain partial differential equations with geometrical and mechanical applications. (S) ASSISTANT PROFESSOR DILLINGHAM

12. Vector Analysis. Sums and products; differential operators; applications to geometry, electricity, and dynamics. (F) PROFESSOR RANSOM

Mathematics 12 is open to students who have completed Mathematics 1, 2, 3, 4, 5, and 6.

14. Theoretical Mechanics. A problem course dealing mainly with dynamics of a particle, and dynamics of a rigid body. Lectures and recitations. (F) Mathematics 6 and 10 must precede.

ASSISTANT PROFESSOR MARVIN

24 PHYSICS

ASSISTANT PROFESSOR MARVIN

The courses of instruction in Physics are designed to meet the needs of three classes of students: first, those who desire the work for its informational and educational value; second, those intend-

ing to pursue the study of medicine, chemistry, or other related science; third, those intending to continue the study of Physics in a graduate school.

The aim of the Department is to make the student familiar with the principles of Physics, and to develop in him some facility and power in the application and use of these principles.

SUBJECTS

1. General Physics. A course of lectures, recitations and laboratory work intended to acquaint the student with the fundamental principles of Physics. It is to be elected by students who choose Physics as their prescribed science. *Two lectures or recitations and one three-hour laboratory period per week. Counting as six term hours.*

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

Must be preceded or accompanied by Mathematics 3.

21. General Physics. Problem Course. This course is a continuation of, and must be preceded by Physics 1. *Two recitations per week. Counting as four term hours.*

ASSISTANT PROFESSOR MARVIN

7. Physics Laboratory. A laboratory course in General Physics intended to follow physics 1. *One three-hour period per week. Counting as two term hours.*

MR. POTE and MR. KNIGHT

NOTE. Physics 1, 7, and 21 satisfy the Physics requirement for the courses in Chemistry and Biology, and are required for all other courses in Physics.

2. Electricity and Magnetism. Mathematical Theory. Lectures and recitations. Mathematics 5 must precede. (F) *Counting as three term hours.*

ASSISTANT PROFESSOR MARVIN

[6. Wave Motion and Light. A brief treatment of geometrical Optics is followed by a discussion of reflection, refraction, diffraction, interference, polarization, double refraction, emission and absorption from the standpoint of the wave theory. Lectures and recitations. (S) Mathematics 5 must precede.

ASSISTANT PROFESSOR MARVIN]

Will be given in 1915-16.

9. Theory of Heat. A discussion of the classical experiments of Regnault, Joule and others, is followed by an introduction to the Kinetic Theory and Thermodynamics, and a discussion of recent developments in the field of Radiation. Lectures and recitations. Given in 1914-15. (S) *Counting as three term hours.* Mathematics 5 is prerequisite. MR. POTE

11. Conduction of Electricity through Gases, and Radioactivity. Lectures and recitations, with collateral reading. Reports on original papers

appearing in the literature of the subject are required from time to time.

(F) Mathematics 5 must precede. *Counting as three term hours.*

MR. POTE

17. Advanced Physics Laboratory. A course intended to accompany Physics 2, 6, 9 or 11. Open to Juniors and Seniors whose major department is Physics, and to other Juniors and Seniors whose qualifications are satisfactory to the head of the department. The course may be pursued for one, two, three or four terms, subject to the approval of the head of the department. *One three hour period per week. Counting as one to four term hours, according to the number of terms in which it is pursued.*

ASSISTANT PROFESSOR MARVIN and MR. POTE

Mathematics 14 may be counted towards a major in Physics.

34 CHEMISTRY

PROFESSOR DURKEE

The instruction is by means of lectures, recitations, and laboratory work. The lectures, illustrated with numerous experiments, are intended to give a thorough elementary knowledge of theoretical and descriptive inorganic chemistry, including a brief account of the chemistry of the carbon compounds and the principal technical processes. In the laboratory the student has an opportunity to verify some of the chemical theories, and to become familiar with substances and their chemical behavior. The lectures are supplemented by written exercises and recitations in the laboratory. An opportunity to study physical chemistry is afforded by subject 11, a course of lectures with laboratory practice, in which simple physical and chemical measurements are made.

The instruction in qualitative analysis is given through a year, in two subjects (2 and 3), taught in part by lectures and recitations, but mainly by work in the laboratory. During the advanced course the student is required to analyze correctly alloys, mixtures of salts, minerals, slags, and other metallurgical products. Quantitative analysis is taught for the most part in the laboratory, and is designed to give the student the theoretical knowledge and skill in manipulation which are necessary for success in this kind of work. In subject 4 the student is required to analyze the simpler salts, alloys, and

minerals. In subject 5, more complicated minerals, alloys, ores, and commercial and food products are analyzed. Organic analysis is included. Technical gas analysis (subject 9) is taught by lectures and laboratory work. The Orsat, Hempel, and Elliott systems are used. Assaying (subject 7) is adapted to familiarizing the student with the practical methods and theory of sampling and assaying gold and silver ores. The above subjects cover a comprehensive study of analytic chemistry, and are intended to give the student such thorough theoretical and practical knowledge as to prepare him for analytical work of almost any description. Metallurgy (subject 8) is intended to give the student some of the more important methods of production of iron and steel from ores. It should be taken after or in connection with Fire Assay (subject 7). The metallurgy of gold and silver is an alternative.

The work in organic chemistry consists of a course of lectures, together with recitations and laboratory work, which are designed to cover the general principles and methods, and include a description of the most important organic compounds. The laboratory practice in organic chemistry will be carried on in connection with subject 10, and will include the preparation of many typical compounds.

In Chemistry 12, opportunity will be given advanced students, under the direction of instructors, for the consideration and discussion of chemical subjects and recent investigations.

SUBJECTS

1. General Chemistry. An introductory course in theoretical and descriptive inorganic chemistry, with a thorough consideration of the simplest carbon compounds and principal technical processes. Lectures, recitations, and laboratory work. *Two lectures, and one three-hour laboratory period. Counting as six term hours.*

PROFESSOR DURKEE, MR. BAKER, DR. CHANDLER,
and ASSISTANTS

35-2. Qualitative Analysis for the detection of the metals, a course which includes the experimental development of schemes for the division of the metals into groups, the separation and detection of the metals in each group,—a study of all the chemical changes and analytical details,

together with the correct analysis of six known solutions and thirteen unknown. Lectures, laboratory work and recitations. *Two three-hour periods.* (F) *Counting as two term hours.*

PROFESSOR DURKEE, MR. BAKER, and ASSISTANTS

35-3. Qualitative Analysis. Advanced, dealing with methods to effect solution of solids, the detection of mineral and common organic acids, the complete analysis of inorganic solids, including mixtures of salts, minerals, alloys, and slags. Three known and thirteen unknown are required, and thorough study of the chemical changes and conditions involved in the analyses. Lectures, laboratory work, and recitations. *Two three-hour periods.* (S) *Counting as two term hours.* MR. BAKER

4. Quantitative Analysis. Theory and practice of gravimetric and volumetric analysis, including the determination of chlorine by the ordinary and Gooch crucible methods, iron and sulphur in ferrous ammonium sulphate, silica in a silicate, phosphorus in a phosphate, complete analysis of dolomite, and brass, preparation of strictly half-normal sodium hydroxide and hydrochloric acid solutions, the volumetric analyses of soda ash and oxalic acid, the analysis of iron ore by the dichromate and permanganate methods, determination of chromium in chromite, of antimony by the iodine method, and silver by the sulphocyanate method. Lectures and laboratory work. *Three three-hour periods. Counting as six term hours.*

PROFESSOR DURKEE and MR. BAKER

5. Quantitative Analysis. Technical. Work varied somewhat to meet the needs of individual students. Course ordinarily comprises proximate analysis of coal, nitrogen in coal, by Kjeldahl's method, complete analysis of boiler scale, mineral and sanitary analysis of water, determination of copper in ores by iodine and cyanide methods, of zinc by ferro-cyanide method, complete analysis of Babbitt metal, determination of lead in ores, and manganese, sulphur, phosphorus, silicon and carbon in iron and steel. Organic analysis. Laboratory work. *Three three-hour periods. Counting as six term hours.* PROFESSOR DURKEE

7. Fire Assay. A course which deals with the theory and practice of sampling and assaying gold and silver ores. Open to students who have taken 1, 2, 3, and 4. *Two three-hour periods.* (S) *Counting as two term hours.* PROFESSOR DURKEE

8. Metallurgy of Iron and Steel, considered largely from the chemical side and includes the study of ores, fluxes, fuels, furnaces, and the other mechanical devices used in the commercial production of pig iron, wrought iron, and steel, together with the solution theory of iron and steel, heat treatment of steel, and production of malleable cast iron. Metallurgy of Gold and Silver is an alternative. Lectures, recitations, and laboratory

work. Chemistry 8 is open to students who have taken Chemistry 1. *Two lectures a week, to be arranged. (S) Counting as two term hours.*

MR. BAKER

9. Gas Analysis, by the Orsat, Elliot, and Hempel systems. Lectures and laboratory work. Chemistry 9 is open to students who have taken Chemistry 1, 2, 3, and 4. *One three-hour period. (F) Counting as one term hour.*

PROFESSOR DURKEE and ASSISTANT

35-10. Organic Chemistry. This course consists of lectures, recitations, and laboratory work. It is intended to familiarize the student with the typical compounds of carbon and their more important derivatives. The work in the laboratory includes the preparation of certain of the more important substances referred to in the lectures, and the identification of certain classes of compounds. Lectures, recitations, and laboratory work. Chemistry 10 is open to students who have taken Chemistry 1. *Three lectures and one three-hour laboratory period. Counting as eight term hours.*

DR. CHANDLER

11. Physical Chemistry. The subject matter of this course consists largely of the principles usually included under the head of Physical Chemistry. The work in the laboratory consists of physical chemical measurements and experiments of a physical chemical nature. Lectures, recitations, and laboratory work. Chemistry 11 is open to students who have taken Chemistry 1, 2, and 4. *Two lectures and one three-hour laboratory period. Counting as six term hours.*

DR. CHANDLER

12. Discussion of Chemical Subjects and Recent Investigations. *One hour a week. (F)*

PROFESSOR DURKEE and DR. CHANDLER

17. Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. Lectures, visits to plants, text-book work, and recitations. *Two lectures or recitations and one three-hour laboratory period. Counting as six term hours.*

PROFESSOR DURKEE

16. Thesis. Investigation of a problem in Inorganic, Organic, or Technical Chemistry. Open to students of A.B. and Science Courses who have satisfactorily completed Chemistry 1, 2, 3, 4, 5, and 10. *Nine laboratory hours a week, to be arranged. Counting as six term hours.*

PROFESSOR DURKEE and DR. CHANDLER

19. Chemistry. This course is primarily intended to enable the students to acquire facility in reading chemical German. The work consists of recitations and special reports on assigned subjects. These assignments are

chiefly to articles in the German chemical journals. Open to Juniors and Seniors, candidates for A.B. or B.S., taking chemistry as a major subject, who have had not less than two years of college German or its equivalent.
To be arranged. (F) DR. CHANDLER

44 BIOLOGY

PROFESSOR NEAL AND PROFESSOR LAMBERT

Instruction in biology is given by laboratory work, recitations and lectures, the object being to impart the scientific method of work and thought rather than to cram the student with a large number of unimportant facts. Courses in biology afford a desirable foundation for work in medicine, teaching, forestry, agriculture, sanitary and domestic science. The theoretical phases of biology have affected so many aspects of modern thought that elementary biology forms an essential part of a general culture course in college.

Three of the subjects in this department (4M, 5M, and 9) are given at the Medical School, 416-430 Huntington Avenue, Boston. These subjects may be taken by candidates for the bachelor's degree, and in this way students contemplating the study of medicine may anticipate one year of their medical course. Those who wish these subjects to count for the bachelor's degree must have previously taken at least Biology 1.

The department of biology has a large lecture room with adequate projection apparatus, and two laboratories well equipped for undergraduate courses in biology. The department library has 13,000 books and pamphlets. The Barnum Museum contains valuable collections easily accessible to the students.

There is required from all students taking laboratory subjects a laboratory fee of four dollars and fifty cents a semester for each subject, payable in advance.

SUBJECTS

1. General Biology. *Two recitations and four hours of laboratory work. Counting as six term hours.* A course in the principles of animal and plant biology, presenting the fundamental facts of vital structure and function with special emphasis upon the vertebrates and flowering plants. Some

conception of the evolution of plants and animals is given by the laboratory study of a series of types beginning with the unicellular. The student is advised to take field work in ornithology (Biology 13) in conjunction with Biology 1.

PROFESSORS NEAL and LAMBERT

3. Vertebrate Morphology. *Two lectures or recitations and four hours of laboratory work. Counting as six term hours.* A course in the phylogeny of man and mammals. The laboratory work consists largely of the dissection of the dogfish and cat. Each organ system is studied with reference to its development, anatomy and physiology. Open to all students who have completed Biology 1.

PROFESSOR NEAL

4M. Human and Comparative Physiology. Lectures, recitations, conferences, and laboratory work. *Hours and credit to be arranged.* (S) Given at the Medical School.

PROFESSOR DEARBORN

5M. Histology, Medical. Lectures, quizzes, and laboratory work. *Hours and credit to be arranged.* (F) Given at the Medical School.

PROFESSOR BATES

7. Botany. Lectures and laboratory work. *Two lectures and four hours of laboratory work. Counting as six term hours.* An advanced course in plant morphology and physiology, open to students who have taken Biology 1.

PROFESSOR LAMBERT

8. Special Work. The investigation of some problem. *Hours and credits to be arranged.* Open to those who have taken three courses in biology.

PROFESSORS NEAL and LAMBERT

9. Human Anatomy. Lectures, quizzes, and dissection. *Hours and credit to be arranged.* (F) Given at the Medical School.

PROFESSOR H. H. GERMAIN

11. Microscopical Technique. A laboratory course designed to introduce the student to the methods used in the preparation of plant and animal tissues for the microscope. Open to students who have completed Biology 3 or 7. *Six hours of laboratory work. Counting as four term hours.*

PROFESSOR LAMBERT

12. Theoretical Biology. A reference reading and thesis course designed to introduce the student to some of the more important literature dealing with the scientific and philosophical problem of man's place in nature. A thesis based upon reference reading and dealing with the problem of the physical and mental evolution of man is required. Open to Seniors and Juniors but may not be offered as a part of the science requirement for a degree. *One lecture, one conference hour and four hours of reference reading. Counting as six term hours.*

PROFESSOR NEAL

13. Ornithology. A field and laboratory course in the study of our native birds. (s). To be taken in conjunction with Biology 1. *One three hour laboratory period or field trip a week. Counting as one term hour.*

PROFESSOR NEAL

54 GEOLOGY

PROFESSOR LANE

The subjects offered in the department of Geology do not form a sequence, but are intended to give different classes of students that knowledge of geology and mineralogy which they need. In all cases, they aim to include some real grasp upon the structure and history of the earth, the problems presented in the study thereof, and the modes of attack upon those problems.

The illustrative collections in these lines are ample. Besides exhibition specimens in the Barnum Museum, there is a working collection illustrating mineralogy, lithology, and dynamical and historical geology. These are supplemented with maps, diagrams, photographs, and lantern slides. The work in each subject consists of lectures and recitations, together with work in the laboratory and in the field. Excursions are taken to neighboring points that illustrate certain phenomena. Tufts College is well placed for field work and for the study of various natural processes.

SUBJECTS

1. Physical Geology and Geography. Primarily intended for Jackson students who may wish to teach Physical Geography in high schools, but there is also a section for engineering students who cannot find place for a fuller course. The text-books are Tarr (New Physical Geography) and Tarr & Von Engel (Laboratory Manual of Physical Geography). A few lectures in geology will be given. *Three periods a week and seven required Saturday afternoon excursions.* (s)

PROFESSOR LANE

21. Physical Geography and Meteorology. Covers the reading and interpretation of topographic and weather maps and exercises thereon. (F) *Counting as one term hour.*

PROFESSOR LANE

22. Physical Geology. Studies the processes which have left their records on the earth. Frequent excursions. *Wednesday afternoons must be kept for this course.* (F) *Counting as two term hours.*

PROFESSOR LANE

Subjects 21 and 22 cannot be taken separately, and together count as one laboratory course. A knowledge of Chemistry, Physics and Trigonometry is presupposed.

23. Economic Geology. The various natural sources of supply for man's needs and the economic and geologic principles governing their valuation and development. The instruction is chiefly by lectures and the work is mainly collateral reading. One book is required (\$2.00). Either Mineralogy 64-1 or some Geological course is required. *One period a week.* (s)

PROFESSOR LANE

24. Historical Geology. A study of the geological periods, with field excursions and laboratory work on fossils. *Wednesday afternoons must be kept for this course.* (s) *Counting as two term hours.* PROFESSOR LANE

Geology 1, or 21 and 22 must precede; Biology 1 is helpful.

[3. Mathematical Problems presented to geologists. Conferences and critical reading of selected papers and original work. Mathematics 4 must precede Geology 3; Mathematics 6 must precede or accompany it. *Counting as three term hours each half-year.* PROFESSOR LANE]

[4. Field Geology. Conference, one hour; field work, six hours a week; open to students who have taken Geology 24. *First part of first and last part of second half-year.* *Counting as three term hours.* PROFESSOR LANE]

64 MINERALOGY

Professor Lane would be glad to advise students wishing to take a thesis subject in Chemistry or Mathematics of geological, mineralogical or crystallographic interest.

1. Mineralogy and Lithology. (Pirrson.) Open to students who have taken Chemistry 1. *Two recitations and four hours of laboratory work or excursion.* *Counting as three term hours.* (F) PROFESSOR LANE

[2. Crystallography and Advanced Mineralogy. Open to students who have taken Mineralogy 1. *Two lectures and four hours laboratory work and field excursions.* (s) *Counting as three term hours.* PROFESSOR LANE]

THEOLOGY

All the subjects offered in the Theological School are open to election by qualified students in the School of Liberal Arts. For details see the announcement of the Crane Theological School.

38 MUSIC

PROFESSOR LEWIS

The department of Music offers opportunities to gain a knowledge of musical history and of the principles of composition, as a basis for practical work in music or in musical criticism. The subjects, Elements of Theory, Harmony, General History of Music, and Musical Appreciation may well be taken, however, by students who have no intention of preparing themselves for professional work in the art.

SUBJECTS

9. Musical Appreciation, Elementary. Systematic studies in musical essentials from the listener's standpoint. (F) PROFESSOR LEWIS

For Music 9 no technical preparation is requisite, but ability to recognize a melody is presupposed. Ability to follow a piano score is very helpful. Outside reading and laboratory study with automatic instruments are required. Music 9 is given in Tufts and Jackson in alternate years. In 1914-1915 it is given in Jackson.

10. Musical Appreciation, Intermediate. A continuation of Music 9. (s) PROFESSOR LEWIS

11. Elements of Theory. Lectures, practice, and analysis, with various text-books for reference. (F) PROFESSOR LEWIS

Only acquaintance with musical notation and with the piano keyboard is required. Music 11 is introductory to Music 21.

21. Harmony. Lectures and practical work, based on Chadwick's Manual of Harmony; collateral reading on biography and theory. (s) PROFESSOR LEWIS

[22. Advanced Harmony and Elementary Counterpoint. A continuation of Music 21. (F) PROFESSOR LEWIS]

A full equivalent of Music 11 and 21 must have been done by students who wish to begin their college work with Music 22.

[3. Sight-reading in Song, and Harmonic Analysis. (s) PROFESSOR LEWIS]

Only those who have finished Music 22 may take Music 3. The harmonic analysis begun in Music 22 is continued, with special attention to the problems of modern music. Harmonic Analysis, by B. Cutter, and Melodia, by Cole and Lewis, are the text-books.

[24. Counterpoint. Lectures and practical work, based on the manuals of Goetschius, Spalding, and others; collateral reading on biography and theory. (s) PROFESSOR LEWIS]

[24. Counterpoint. Lectures and practical work, based on the manuals of Goetschius, Spalding, and others; collateral reading on biography and theory. (s) PROFESSOR LEWIS]

Laboratory work with the automatic instruments is required.

[6. General History of Music, from the earliest times to the present day, with special attention to the period since the death of Palestrina. Lectures, with various treatises for reference. (s) PROFESSOR LEWIS]

25. Studies in one or more of the following subjects: Canon, Fugue, Orchestration, Form, Free composition, Musical History, Musical Criticism. PROFESSOR LEWIS

The studies may be directed by lectures, or may consist of individual work of students under the supervision of the instructor. Requirements as to previous studies in Music and in foreign languages will be given on application to the instructor.

88 PHYSICAL EDUCATION

DR. L. R. BURNETT, Director

The aim of the department is to secure the interest and participation of the students in such exercises and training as they need for corrective, hygienic, and recreative purposes.

The object of the work is recreative and its purpose is to give the student such knowledge of the structure and composition of the human body as will enable him to understand its functions, keep it in good condition, and develop it symmetrically. These objects are sought by lectures on anatomy, physiology and personal hygiene, regular class exercises, accompanied by music, in the gymnasium during the winter, and by out-door exercise in the fall and spring, when the weather is suitable. A medical examination is given and physical measurements and strength tests of all students are taken at the beginning and the end of the gymnasium course, and at other times when requested. These enable the instructor to prescribe special exercises to overcome defects. There is connected with the gymnasium a special room fitted out with all the modern apparatus for the development of weak muscles and the correction of deformities. Students may also receive personal advice with reference to habits of life.

Weekly lectures on hygiene are given during the first term of the Freshman year. These lectures are given by apt, tactful

men; leaders in their professions, who are especially chosen for their capability. Outdoor competitive games in spring and fall, and indoor exercise—calisthenics; marching tactics; Indian club, wand, and dumb-bell drills; apparatus, boxing, fencing, wrestling, indoor baseball and hand-ball—is required two hours a week, from October to May, of all undergraduate students, for the first two years following entrance. Participation in any one of the organized sports may be substituted for the required work, except hygiene, for the time of such participation. The work is optional the remaining years of the course.

Organized competitive teams represent the College in fencing, wrestling and gymnastics, and these clubs are open to any student attending the gymnasium. The annual college championship in these indoor sports stimulates an interest in advanced physical accomplishments and leads the student to select one sport as his special hobby in after life.

Indoor team contests in athletics and gymnastics are frequently conducted, the object being to engage large numbers in the activities without giving undue prominence to those who naturally excel.

The intention of the department is to make physical training of such character that the weakest as well as the strongest can engage in it with profit. Recognizing the fact that muscular exercise, without the coöperation of the mind, fails of its intent and purpose, the work is made largely recreative.

ELECTIVE PHYSICAL EDUCATION

For the benefit of those in the upper classes who wish a knowledge of the various systems of Physical Education, an advanced course in the German and Swedish methods is given. Opportunity is offered for practice teaching, leading classes, selection of graduated exercises, gymnasium management, organization of teams, and the general essentials of a normal course.

The individual accomplishments in which special classes are formed for upper-classmen include athletic and rhythmic dancing, club swinging, mat tumbling, fencing, wrestling, and gymnastics.

Time-Schedule for the year of 1914-15

(Subject to Revision)

SCHOOL OF LIBERAL ARTS AND JACKSON COLLEGE

The hour for the Tufts division is indicated by the letter T; for the Jackson division by J. Initials are used for the days of the week, thus; *MWF*, Monday, Wednesday, and Friday; *TTS*, Tuesday, Thursday, and Saturday. The numeral following these letters indicates the program-hour, not the time of day. The working day is divided into eight periods, beginning respectively at 8.00, 8.50, 9.50, 11.10, 12.10, 2.10, 3.10, and 4.10; and the hours are numbered in that order. Thus, *MWF 2* means 8.50 on the respective days; *TTS 4* means 11.10, etc.

Subjects that continue through only one half-year are indicated by letters in parenthesis, thus: (F) means "first half-year," (s) means "second half-year." Subjects not so indicated extend through both terms.

- | | |
|--|---|
| 12-1 (F) English T <i>TTS 2</i> ; J <i>TTS 4</i> | 14-10 (s) Math. T J <i>TTS 3</i> |
| 12-2 (s) English T <i>TTS 2</i> ; J <i>TTS 4</i> | 14-12 (F) Math. T J <i>TTS 1</i> |
| 12-4 (s) Adv. Comp. T J <i>To be arranged</i> | 14-14 (F) Math. <i>To be arranged</i> |
| 12-10 Eng. Bible T J <i>TTS 3</i> | 16-3 (F) Philosophy T J <i>MWF 4</i> |
| 12-12 Amer. Lit. T <i>MWF 5</i> ; J <i>MWF 2</i> | 16-4 (s) Philosophy T J <i>MWF 4</i> |
| 12-16 (F) Milton T J <i>MWF 4</i> | 16-8 Ethics T J <i>TTS 4</i> |
| 12-17 (F) Shakespeare T J <i>MWF 2</i> | 16-15 Philosophy T J <i>TTS 3</i> |
| 12-18 (s) Shakespeare T J <i>MWF 2</i> | 16-16 (s) Experimental Psychology
T J <i>MWF 678</i> |
| 12-25 Development of Drama T J
<i>TTS 4</i> | 16-55 Psychology T J <i>MWF 2</i> |
| 12-29 Seminar T J <i>TT 67</i> | 18-1 (s) Oratory <i>To be arranged</i> |
| 12-34 Tennyson and Browning T J
<i>MWF 3</i> | 22-1 German T <i>MWF 2</i> ; J
<i>MWF 5</i> |
| 12-36 (s) Carlyle T J <i>MWF 4</i> | 22-2 German T <i>MWF 3</i> ; J <i>TTS 3</i> |
| 14-1 (s) Algebra T <i>MWF 2</i> and
<i>5</i> ; J <i>MWF 3</i> | 22-3 German T <i>MWF 4</i> ; J <i>TTS 2</i> |
| 14-2 (s) Solid Geom. T J <i>MWF 5</i> | 22-3A German <i>Tu 6</i> |
| 14-3 (F) Trig. T <i>MWF 2</i> and <i>5</i> ; J
<i>MWF 3</i> | 22-3B German T J <i>TTS 5</i> |
| 14-4 (F) Anal. Geom. T J <i>TTS 4</i> | 22-4 German T J <i>MWF 5</i> |
| 14-5 (s) Math. T J <i>TTS 4</i> | 22-5 German T J <i>MWF 7</i> |
| 14-6 (F) Math. T J <i>TTS 3</i> | 22-6 German T J <i>MWF 3</i> |
| 14-7 (s) Math. <i>To be arranged</i> | 24-1 Physics T <i>TT 4</i> ; J <i>TT 2</i>
Laboratory on <i>MTuTh or F 678</i> |
| 14-8 (s) Math. <i>To be arranged</i> | 24-2 (F) Physics T J <i>MWF 5</i> |
| 14-9 (F) Math. <i>To be arranged</i> | 24-6 (s) Physics <i>To be arranged</i> |
| | 24-7 Physics Lab. T J <i>W 678</i> |
| | 24-11 (F) Physics <i>To be arranged</i> |

- 24-17 Physics *To be arranged*
 24-21 Physics T J *TT* 7
 26-1 (F) Education T J *TTS* 1
 26-4 (s) Education T J *TTS* 3
 28-3 (F) Class. Arch. T J *MWF* 4
 28-4 (s) Class. Arch. T J *MWF* 4
 28-7 (F) Greek Hist. T J *MWF* 5
 28-8 (s) Roman Hist. T J *MWF* 5
 32-1 French T J *MWF* 2
 32-2 French T *MWF* 3; J *MWF* 7
 32-3 French T J *MWF* 6
 32-3B French T J *TTS* 5
 32-4 French T J *TTS* 3
 32-5 French T J *TTS* 3
 34-1 Chemistry T J *Tu* 5678 *Th* 5
Th 123 instead of *Tu* 678 for
 students in one-year Pre-Medi-
 cal course
 34-4 Quan. Anal. T J *TTS* 123
 34-5 Quan. Anal. T J *TTS* 123
 34-7 (s) Fire Assay T J *MF* 678
 34-8 (s) Metallurgy T J *WF* 4
 34-9 (F) Gas Anal. T J *F* 123
 34-11 Chemistry T J *MF* 5; *W* 123
 34-12 (F) Chemistry *To be arranged*
 34-17 Chemistry T J *TT* 8; *M*
123
 34-16 Chemistry *To be arranged*
 34-19 (F) Chemistry *To be arranged*
 35-2 (F) Qual. Anal. T J *MF* 123 or
678
 35-3 (s) Qual. Anal. T J *MF* 678
 35-10 Org. Chem. T J *TTS* 5; *W*
123
 36-1 History T *MWF* 5; J *TTS* 4
 36-2 History T J *MWF* 2
 36-3 History T J *MWF* 4
 36-6 (F) History T J *TTS* 3
 36-7 (s) History T J *TTS* 3
 36-15 History *To be arranged*
 38-1 (F) Music T J *Tu* 6, *Th* 67
 38-9 (F) Music J *TTS* 2
 38-10 (s) Music J *TTS* 2
 38-21 (s) Music T J *Tu* 6, *Th* 67
 38-25 Music *To be arranged*
 42-1 ⁵ Italian T J *MWF* 4
 44-1 Biology T J *TT* 678
 44-3 Biology T J *MF* 678
 44-7 Botany T J *MF* 678
 44-8 Biology *To be arranged*
 44-11 Biology T J *MF* 678
 44-12 Biology T J *TT* 5
 44-13 (s) Biology *S* 1
 46-4 (F) Hist. and Pub. Law T J
MWF 4
 46-10 Hist. and Pub. Law T J
MWF 3
 52-1 Latin T *MWF* 7; J *MWF* 2
 52-2 Latin T J *TTS* 4
 52-3 Latin T J *TTS* 3
 52-5 Latin T J *Tu* 6
 52-6 Latin T J *Th* 2
 54-1 (s) Geology T J *TTS* 3 or
TTS 4
 54-21 (F) Geology T J *W* 5
 54-22 (F) Phys. Geology T J *W* 678;
F 6
 54-23 (s) Econ. Geology T J *W* 5
 54-24 (s) Hist. Geology T J *W* 678;
F 6
 62-2 Greek T J *TTS* 3
 62-3 Greek T J *MWF* 3
 62-6 Greek T J *Th* 6
 64-1 (F) Mineralogy T J *M* 45;
TT 67
 66-1 Pol. Science T J *MWF* 3
 66-2 (F) Pol. Science T J *MWF* 4
 66-3 (F) Sociology T J *MWF* 5
 66-6 (F) Pol. Science T J *MWF* 2
 66-7 (s) Pol. Science *To be arranged*
 66-9 Pol. Science *To be arranged*
 66-13 (s) Prac. Sociol. T J *MWF* 5
 66-16 (s) Pol. Science T J *MWF* 2
 66-17 Pol. Science T J *TTS* 2
 66-18 Pol. Science T J *MWF* 2
 66-22 (s) Pol. Science T J *MWF* 4

ENGINEERING SCHOOL

Faculty of the Engineering School

RESIDENCE*

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT	8 Professors Row
GARDNER C. ANTHONY, A.M., SC.D., DEAN	14 Professors Row
<i>Professor of Technical Drawing. Acting Head of Department of Mechanical Engineering</i>	
WILLIAM H. REED, A.M., SECRETARY	81 Walnut Ave., Roxbury
<i>Assistant Professor of Modern Languages</i>	
WILLIAM L. HOOPER, A.M., PH.D.	124 Professors Row
<i>Professor of Electrical Engineering</i>	
ALFRED C. LANE, A.M., PH.D., SC.D.	22 Arlington St., N. Cambridge
<i>Pearson Professor of Geology and Mineralogy</i>	
FRANK B. SANBORN, C.E., M.S.	8 Buena Vista Park, Cambridge
<i>Professor of Civil Engineering</i>	
FRANK W. DURKEE, A.M.	38 Professors Row
<i>Professor of Inorganic Chemistry</i>	
EDWARD H. ROCKWELL, S.B.	133 Powder House Boulevard, W. Somerville
<i>Professor of Structural Engineering</i>	
CHARLES H. CHASE, S.B.	39 Lincoln St., Stoneham
<i>Professor of Steam Engineering</i>	
SAMUEL C. EARLE, A.M.	45 Sawyer Avenue
<i>Professor of English</i>	
HENRY C. METCALF, A.B., PH.D.	31 Sheffield Road, Winchester
<i>Jackson Professor of Political Science</i>	
SAMUEL L. CONNER, B.S., M.S.	23 Bellevue St.
<i>Assistant Professor of Railroad Engineering</i>	
WILLIAM R. RANSOM, A.M.	29 Sawyer Avenue
<i>Professor of Mathematics</i>	
GEORGE F. ASHLEY	47 Avon St., Somerville
<i>Assistant Professor of Technical Drawing</i>	

*The post office address is Tufts College, Mass., unless otherwise indicated.

EDWIN B. ROLLINS, B.S.	101 Talbot Ave.
<i>Assistant Professor of Electrical Engineering</i>	
HOWARD H. CARROLL, S.B.	66 Wyman St., W. Medford
<i>Assistant Professor of Technical Drawing.</i>	
*PHILIP H. COBB, A.B., PH.D.	
<i>Assistant Professor of Organic Chemistry</i>	
MELVILLE S. MUNRO, B.S.	101 Talbot Ave.
<i>Assistant Professor of Electrical Engineering</i>	
FRANK E. SEAVEY, A.B.	45 Sawyer Ave.
<i>Assistant Professor of English</i>	
HENRY H. MARVIN, B.S., PH.D.	59 West Adams St.
<i>Assistant Professor of Physics</i>	
FRANK W. POTE, B.S.	9 Marshall St., Medford
<i>Instructor in Physics</i>	
RICHARD C. SMITH, B.S.	15 Warren St., W. Medford
<i>Assistant Professor of Structural Engineering</i>	
ALEXANDER DILLINGHAM, A.M.	54 Curtis Ave.
<i>Assistant Professor of Mathematics</i>	
NATHANIEL H. KNIGHT, B.S.	65 Pearson Rd.
<i>Instructor in Physics</i>	
CONRAD A. ADAMS, B.S.	38 Whitfield Rd., West Somerville
<i>Instructor in Mechanic Arts</i>	
JOSEPH CHANDLER, PH.D.	7 Eastman St.
<i>Professor of Organic Chemistry</i>	
CROSBY F. BAKER, M.S.	75 Pearson Rd., W. Somerville
<i>Instructor in Chemistry</i>	
MERRILL C. HILL, A.M.	7 Edison Ave.
<i>Instructor in Modern Languages</i>	
EDGAR MACNAUGHTON, M.E.	7 Edison Ave.
<i>Instructor in Mechanical Engineering</i>	
HARRY P. BURDEN, B.S.	22 Fairmount St.
<i>Instructor in Civil Engineering</i>	
ALBERT ABRAHAM SHAPIRO, A.M.	22 College House,
<i>Instructor in Spanish and French</i>	
	Cambridge

* Absent on leave.

- VANNEVAR BUSH, M.S. A T Ω House
Walker Special Instructor in Mathematics
- MYRON J. FILES, A.B. Dean Hall, 6
Instructor in English

COMMITTEE ON PROMOTIONS

Dean Anthony, *Chairman*; Professors Durkee, Rockwell, and Assistant Professors Ashley and Rollins.

COMMITTEE ON CURRICULUM

Dean Anthony, *Chairman*; Professors Hooper, Sanborn, Durkee, Rockwell, Chase, and Earle.

OTHER OFFICERS

- EUGENE E. SHEPARD 43 Boston Ave., W. Medford
Bursar
- LESLIE N. GEBHARD LL.B. 7 Edison Ave.
Secretary to the Dean of the Engineering School
- MASON E. BENNETT 71 School St., Somerville
Clerk in the Engineering School

Courses of Instruction

The School offers courses in CIVIL ENGINEERING, STRUCTURAL ENGINEERING, MECHANICAL ENGINEERING, ELECTRICAL ENGINEERING, and CHEMICAL ENGINEERING, each leading to the degree of Bachelor of Science, and requiring four years of study.

While much of the instruction is of a technical character relating to the several branches of engineering, the first aim of the School is toward a broad intellectual development, and an appreciation of the duties of the educated man. An effective correlation of the subjects serves to promote a great degree of unity and to secure an educational result both scientific and cultural.

During the first two years the course of study and elective privileges are the same for all departments. The importance of developing the power to write clear and concise English is emphasized by correlating this subject with the work of other departments, thus making it as much a fundamental for technical training as it is for a literary education. The required courses in Mathematics, Physics, and Chemistry, common to every field of engineering, are studied during this period, thus preparing the student for the applied subjects which characterize the work of the Junior and Senior years. A thorough course in the theory and practice of Technical Drawing and of Mechanic Arts is required in all departments during the first two years.

One hundred and forty term hours are required for graduation, this being the equivalent of about fifty-two hours of work per week. One term hour signifies one recitation per week for one term, or one laboratory period of three hours for a term, the recitation period implying two hours of preparation. A grade of C or higher must be obtained in at least 70 term hours.

On the pages immediately following the Courses of Instruction will be found an index of the subjects, which gives a complete view of the system of numbering. Subjects in brackets are not given this year. The figures following the names of subjects represent the credit in term hours.

Following this index will be found detailed descriptions of the subjects in numerical order.

Permission to take a program in excess of eighteen term hours, except when required by the curriculum, must be obtained by petition to the Committee on Promotions.

FRESHMAN YEAR

[Alike for all courses.]

FIRST TERM			SECOND TERM		
11-1	English	3	11-2	English	3
13-2	†French or	}	13-2	†French or	}
15-2	†German		15-2	†German	
21-1	Drawing	5	21-5	Descriptive Geometry	3
29-1	Mathematics	3	25-1	Mechanic Arts	3
29-2	Mathematics	3	29-3	Mathematics	3
88	Physical Training	$\frac{1}{2}$	31-1	Physics	3
			88	Physical Training	$\frac{1}{2}$
Total			17 $\frac{1}{2}$	Total	
				18 $\frac{1}{2}$	

SOPHOMORE YEAR

[Alike for all courses.]

FIRST TERM			SECOND TERM		
21-8	Drawing	3	21-13	Mechanism	3
29-4	Mathematics	3	29-5	Mathematics	3
31-2	Physics	3	31-7	Physical Laboratory	1 $\frac{1}{2}$
31-7	Physical Laboratory	1 $\frac{1}{2}$	35-1	Chemistry	3
35-1	Chemistry	3	41-3	Surveying	2
41-3	Surveying	1	45-21	Mechanics	3
88	Physical Training	$\frac{1}{2}$	88	Physical Training	$\frac{1}{2}$
Total			15	Total	
				16	

Electives

English, French or German.

Electives

English, French or German.

†As the course to be pursued in modern language is dependent on the preparation of each student, definite instruction for the selection thereof is given at the time of registration.

CIVIL ENGINEERING

The Civil Engineering graduates enter a great variety of positions. Their work may include municipal engineering, general surveying, water-supplies, sewerage, water-powers, bridges, mill buildings, fire protection, foundations, electric railroads, steam railroads, highways, or contracts and specifications; and these positions may require drafting, computations, or field construction. It therefore becomes the duty of the Department to qualify its students for various fields of employment. The basis of instruction is general engineering education and not specialization. In fact it is recommended that those students who find that they would like to specialize should plan to do so by a graduate year of study after their four years of general engineering education in the Civil Engineering course.

By referring to the detailed list of studies published on another page of this catalogue, it may be seen, however, that a student can select for his Senior year elective studies and a thesis which will give him opportunity to devote most of the year to his chosen field in railroads, hydraulics, or municipal engineering.

In order that the student may observe a direct application of the theory that he is studying, the Department conducts many laboratory and field courses. These include field practice in topographical and railroad surveying (for which the college location affords excellent advantages), river gaugings, and laboratory tests of metals, cements, road materials, and hydraulic appliances, beside trips of inspection, and tests at near-by industrial or municipal plants. This close association of theory and practice adds to the interest and progress of the student.

CIVIL ENGINEERING

JUNIOR YEAR

FIRST TERM

35-2	Qualitative Analysis	2
41-12	Railroad Surveying	3
41 40	Hydraulics	3
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory .	1
51-1	Steam Engine	3
81-2	Economics	3
	Total	18

Electives

11-	English	
14-	Mathematics	
54-	Geology	

SECOND TERM

41-13	Railroad Engineering	3
41-21	Highways	2
41-43	Hydraulic Measurements . . .	2
45-2	Applied Mechanics	3
47-3	Structural Design	3
81-2	Economics	3
	Total	16

Electives

11-	English	
14-	Mathematics	
54-	Geology	

SENIOR YEAR

FIRST TERM

41-14	Railroad Engineering	3
41-46	Water Supplies	3
41-95	Civil Engineering Topics . . .	2
45-3	Structural Mechanics	3
47-1	Roofs and Bridges	3
	Total	14

Electives

11-	English	
14-	Mathematics	
17-1	Spanish	3
35-18	Chemistry of Road-building Ma- terials	3
41-47	Water Power Engineering . . .	3
47-7	Bridge Design	3
64-	Mineralogy	
66-	Economics	

SECOND TERM

41-48	Sewerage	3
41-63	Contracts	3
41-99	Thesis	3-5
	Total	9-11

Electives

11-	English	
14-	Mathematics	
17-1	Spanish	3
35-18	Chemistry of Road-building Ma- terials	3
41-17	Railroad Economics	3
41-31	Geodesy	2
41-51	Fire Protection Engineering . .	2
47-2	Theory of Structures	3
47-8	Structural Design	2
54-	Geology	
66-	Economics	

STRUCTURAL ENGINEERING

The course of instruction in Structural Engineering is arranged so as to afford the student a comprehensive training in the fundamentals of civil engineering construction, and leads to the degree of Bachelor of Science in Civil Engineering. In addition to the subjects of the first two years, the course includes, as prescribed subjects, applied mechanics; testing of the materials of construction; stresses in framed structures; design of masonry and reinforced concrete structures and foundations; the design of buildings and bridges; hydraulics; sanitary engineering; steam engine; railroad surveying and economics. In addition to the prescribed subjects, it is possible for the student to elect courses in English, Spanish, mineralogy, geology, geodesy, contracts, dynamo electric machinery, highways, hydraulic engineering, railroad engineering, and advanced courses in mathematics.

The distinctive work of the course, however, is based upon the principles involved in the theory of structures, and in their design and construction. The study of this subject is commenced at the beginning of the junior year and is carried through two full years without intermission, partly in order to develop the power of concentration by the continued study of a highly mathematical and scientific body of co-ordinated principles, and partly because these same principles happen to be fundamental and therefore necessary for a complete understanding of civil engineering structures.

Special emphasis is laid upon the design by the student of typical structures which are likely to be met in practice. By this means he fixes in mind the principles of mechanics and obtains a truer perspective of their application for stability, safety, and economy of construction. The course is designed as an educational preparation not only for those who expect to follow construction professionally as engineers, but for others who may eventually be connected with public or private works as designers, inspectors or in administrative capacities.

STRUCTURAL ENGINEERING

JUNIOR YEAR

FIRST TERM

35-2	Qualitative Analysis	2
41-12	Railroad Surveying	3
41-40	Hydraulics	3
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory .	1
51-1	Steam Engine	3
81-2	Economics	3
Total		18

Electives

11-	English
14-	Mathematics
54-	Geology

SECOND TERM

41-13	Railroad Engineering	3
41-21	Highways	2
41-43	Hydraulic Measurements	2
45-2	Applied Mechanics	3
47-3	Structural Design	3
81-2	Economics	3
Total		16

Electives

11-	English
14-	Mathematics
54-	Geology

SENIOR YEAR

FIRST TERM

41-46	Water Supplies	3
45-3	Structural Mechanics	3
47-1	Roofs and Bridges	3
47-7	Bridge Design	3
47-95	Structural Topics and Reports .	2
Total		14

Electives

11-	English	
14-	Mathematics	
17-1	Spanish	3
41-14	Railroad Engineering	3
41-21	Highways	2
41-47	Water Power Engineering	3
64-	Mineralogy	
66-	Economics	

SECOND TERM

47-2	Theory of Structures	3
47-8	Structural Design	2
47-99	Thesis	3-5

Total 8-10

Electives

11-	English	
14-	Mathematics	
17-1	Spanish	3
41-17	Railroad Economics	3
41-31	Geodesy	2
41-48	Sewerage	3
41-51	Fire Protection Engineering . .	2
41-63	Contracts	3
54-	Geology	
66-	Economics	

ELECTRICAL ENGINEERING

The aim of this course is to lay a broad foundation of Electrical Science upon which the future technical attainments of the electrical engineer may rest.

The purely electrical work extends throughout the junior and senior years; that in the junior year being devoted to the more elementary theory, and the practice of the simpler tests and measurements, while that in the senior year is largely directed to the more advanced study of alternating currents and electrical machinery and to the more complicated tests of the alternating current and dynamo laboratories, and to the consideration of the general problems of Electrical Engineering.

Throughout the course much attention is paid to the numerical solution of electrical problems, as it is believed that in no other way can theory and principles be so quickly and so clearly comprehended. A considerable amount of time is given to the design of electrical apparatus and machinery and many students during their course construct or assist in the construction of some instrument or piece of electrical machinery of commercial finish and dimensions.

The graduates of this course are advised to spend a couple of years in the apprenticeship courses or testing departments of the large electrical manufacturing companies in order that they may get an intimate practical acquaintance with electrical apparatus and experience in handling and operating heavy machinery.

Everywhere the attempt is made to present the data and methods of Electrical Engineering by the scientific development of physical principles, it being assumed that the empirical side of the profession may best be acquired by practice after graduation.

ELECTRICAL ENGINEERING

JUNIOR YEAR

FIRST TERM

25-8	Mechanic Arts	3
35-2	Qualitative Analysis	2
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory	1
51-1	Steam Engine	3
61-3	Dynamo-Electric Machinery	3
81-2	Economics	3
	Total	18

Electives

11-	English	
14-	Mathematics	

SECOND TERM

41-41	Hydraulics	3
45-2	Applied Mechanics	2
51-3	Engineering Thermodynamics	3
51-21	Mechanical Engineering Lab.	2
61-5	Alt. Current Machinery	3
61-8	Electrical Laboratory	3
81-2	Economics	3
	Total	19

Electives

11-	English	
14-	Mathematics	

SENIOR YEAR

FIRST TERM

61-12	Dynamo Laboratory	3
61-14	Electricity	3
61-15	Electrical Engineering	3
61-23	Dynamo Design	3
	Total	12

Electives

11-	English	
14-	Mathematics	
17-1	Spanish	3
41-47	Water Power Engineering	3
51-7	Engine Design	3
51-15	Dynamics of Machinery	3
51-17	Mechanical Design	3
51-26	Mechanical Engineering Lab.	3
61-17	Telephone and Telegraph	3
66-	Economics	
81-5	Engineering Economics	

SECOND TERM

51-14	Electricity	3
61-16	Electrical Engineering	3
61-99	Thesis	3-5
	Total	9-11

Electives

11-	English	
14-	Mathematics	
17-1	Spanish	3
41-63	Contracts	3
51-8	Power Plant Design	3
51-28	Mechanical Engineering Lab.	3
61-95	Electrical Topics	2
66-	Economics	

MECHANICAL ENGINEERING

The course of instruction in mechanical engineering relates particularly to the generation and transmission of power; the design and construction of machinery; the economics of production and labor.

The subject of steam is begun with the Junior year and continued through the Senior year, giving full consideration to the mechanical theory of heat and the properties of steam and gases, based on the preparatory courses in physics and chemistry. It comprises the study of steam engines and boilers, together with their auxiliaries, by text book, laboratory tests, and design. Gas producers, gas engines, and turbines are also given the attention which their importance demands. Both required and elective courses in Electricity are given at the same time, thus giving the student a comprehensive treatment of the power problem.

The subject of mechanism is introduced in the Sophomore year and followed by the mechanics and dynamics of machinery in the Junior and Senior years. These courses are paralleled by laboratory practice and a thorough training in applied mechanics and the testing of materials. The courses in design are closely correlated with the development of theory, and supplemented by shop practice and many inspection trips to the industrial plants in the vicinity.

The third and equally important division of this course is the consideration of problems relating to the manufacture of machinery. This comprises the economic methods of production, and the consideration of labor problems. These subjects will be presented to the prospective engineer in such form as to enable him to comprehend their importance and the principles involved.

The course aims to give the graduate a thorough knowledge of the fundamentals in mechanical engineering so that he may successfully cope with the problems in the shop and engineering office, the power plant, or in factory organization and administrative engineering.

MECHANICAL ENGINEERING

JUNIOR YEAR

FIRST TERM			SECOND TERM		
25-8	Mechanic Arts	3	41-41	Hydraulics	2
45-1	Applied Mechanics	3	45-2	Applied Mechanics	3
35-2	Qualitative Analysis	2	51-3	Engineering Thermodynamics	3
45-12	Applied Mechanics Laboratory	1	51-21	Mechanical Engineering Lab.	2
51-1	Steam Engine	3	61-5	Alt. Current Machinery	3
61-3	Dynamo-Electric Machinery	3	61-8	Electrical Laboratory	3
81-2	Economics	3	81-2	Economics	3
	Total	18		Total	19
	<i>Electives</i>			<i>Electives</i>	
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	

SENIOR YEAR

FIRST TERM			SECOND TERM		
51-7	Engine Design	3	51-8	Power Plant Design	3
51-15	Dynamics of Machinery	3	51-19	Production Engineering	3
51-17	Machine Design	3	51-28	Mechanical Engineering Lab.	3
51-26	Mechanical Engineering Lab.	3	51-99	Thesis	3
	Total	12		Total	12
	<i>Electives</i>			<i>Electives</i>	
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	
17-1	Spanish	3	17-1	Spanish	3
41-47	Water Power Engineering	3	41-63	Contracts	3
61-12	Dynamo Laboratory	3	51-95	Mech. Engineering Topics	2
61-14	Electricity	3	61-14	Electricity	3
61-15	Electrical Engineering	3	61-16	Electrical Engineering	3
61-23	Dynamo Design	3	66-	Economics	
66-	Economics				
81-5	Engineering Economics	3			

CHEMICAL ENGINEERING

The course in Chemical Engineering covers a period of four years, and leads to the degree of Bachelor of Science in Chemical Engineering.

The subjects in this course have been arranged to give the training in mathematics, physics, chemistry, and mechanical and electrical engineering that will assist the graduates of the department in solving the mechanical, electrical and chemical problems that present themselves when chemistry is applied in practical ways. Subjects intended for general training, the greater part of the pure mathematics, and the less technical engineering subjects have purposely been introduced early in the course. This arrangement allows much time for the study of subjects in chemistry and advanced engineering in the last two years. The mathematical, physical, and general engineering subjects, as well as subjects that are intended for general culture, correspond, for the most part, to those of the course in mechanical and electrical engineering.

In chemistry the subjects are numerous enough to train the student thoroughly in theoretical and descriptive inorganic and organic chemistry, to give him a working knowledge of the different branches of chemical analysis, and to make him familiar with many of the practical applications of chemistry. The chemical and engineering subjects are taught, so far as it is possible, in the laboratories, and excursions are made from time to time to plants where technical chemical operations are performed.

Young men who graduate from the course in chemical engineering find employment in constructing and operating plants where chemistry is applied commercially, such as gas-works, dye-works, bleacheries, paper and pulp mills, acid and alkali manufactories, and analytical laboratories.

CHEMICAL ENGINEERING

JUNIOR YEAR

FIRST TERM

35-2	Qualitative Analysis	2
35-4	Quantitative Analysis	3
35-10	Organic Chemistry	4
45-1	Applied Mechanics	3
45-12	Applied Mechanics Laboratory .	1
51-1	Steam Engine	3
81-2	Economics	3
Total		19

Electives

11-	English	
14-	Mathematics	
	German 15 or 22	3

SECOND TERM

35-3	Qualitative Analysis	2
35-4	Quantitative Analysis	3
35-10	Organic Chemistry	4
41-41	Hydraulics	2
45-2	Applied Mechanics	3
81-2	Economics	3
Total		17

Electives

11-	English	
14-	Mathematics	
	German 15 or 22	3
24-2	Electricity and Magnetism . . .	3

SENIOR YEAR

FIRST TERM

35-5	Quantitative Analysis	3
35-9	Gas Analysis	1
35-11	Theoretical Chemistry	3
35-17	Applied Chemistry	3
61-3	Dynamo-Electric Machinery . .	3
Total		13

Electives

11-	English	
14-	Mathematics	
	German 15 or 22	3
17-1	Spanish	3
41-46	Water Supplies	3
54-	Geology	
64-	Mineralogy	
66-	Economics	
81-5	Engineering Economics	3

SECOND TERM

35-5	Quantitative Analysis	3
35-7	Fire Assay	2
35-8	Metallurgy	2
35-11	Theoretical Chemistry	3
35-17	Applied Chemistry	3
35-99	Thesis	3-5
Total		16-18

Electives

11-	English	
14-	Mathematics	
	German 15 or 22	
17-1	Spanish	3
41-48	Sewerage	3
54-	Geology	3
61-8	Electrical Laboratory	3
66-	Economics	

Index to Subjects

No.	Term Hours	SUBJECT	No.	Term Hours	SUBJECT
11 ENGLISH			41 CIVIL ENGINEERING		
11-1	3	English (First Term)	41-3	†3	Surveying
11-2	3	English (Second Term)	41-12	3	Railroad Surveying
11-4	2	Narration	41-13	3	Railroad Engineering
11-5	3	General English Literature	41-14	3	Railroad Engineering
11-6	2	English Literature, 19th Century	41-17	3	Railroad Engineering Economics
[11-7	2	Advanced English Literature]	41-21	2	Highways and Cements
11-8	2	Technical Exposition	41-31	2	Geodesy
11-9	2	Technical Theses	41-40	3	Hydraulics
11-13	3	Argumentation	41-41	2	Hydraulics
13 FRENCH			41-43	2	Hydraulic Measurements
13-1	*6	French	41-46	3	Water Supplies
13-2	*6	French	41-47	3	Water Power Engineering
13-3	3	French	41-48	3	Sewerage
15 GERMAN			41-51	2	Fire Protection Engineering
15-2	*6	German	41-63	3	Contracts
15-3	3	German	41-95	2	Civil Engineering Topics
17 SPANISH			41-99	3-5	Civil Engineering Thesis
17-1	*6	Spanish	45 APPLIED MECHANICS		
21 DRAWING			45-1	3	Applied Mechanics
21-1	5	Drawing	45-2	3	Applied Mechanics
21-5	3	Descriptive Geometry	45-3	3	Structural Mechanics
21-8	3	Drawing	45-12	1	Applied Mechanics Laboratory
21-13	3	Mechanism	45-21	3	Mechanics
25 MECHANIC ARTS			47 STRUCTURAL ENGINEERING		
25-1	3	Pattern Making	47-1	3	Roofs and Bridges
25-8	3	Metal Work	47-2	3	Theory of Structures
29 MATHEMATICS			47-3	3	Structural Design, Elementary
29-1	3	Computation	47-7	3	Bridge Design
29-2	3	Analytical Geometry and Algebra	47-8	2	Structural Design, Advanced
29-3	3	Freshman Calculus	47-95	2	Structural Topics and Reports
29-4	3	Sophomore Calculus	47-99	3-5	Structural Engineering Thesis
29-5	3	Sophomore Calculus	51 MECHANICAL ENGINEERING		
31 PHYSICS			51-1	3	Steam Engine
31-1	3	Mechanics and Sound	51-3	3	Thermodynamics
31-2	3	Electricity and Magnetism, and Light	51-7	3	Engine Design
31-7	§3	Physical Laboratory	51-8	3	Power Plant Design
35 CHEMISTRY			51-15	3	Dynamics of Machinery
35-1	*6	General Inorganic Chemistry	51-17	3	Machine Design
35-2	2	Qualitative Analysis	51-19	3	Production Engineering
35-3	2	Qualitative Analysis, Advanced	51-21	2	Mechanical Engineering Labora- tory
35-4	*6	Quantitative Analysis	51-26	3	Mechanical Engineering Labora- tory
35-5	*6	Quantitative Analysis, Technical	51-28	3	Mechanical Engineering Labora- tory
35-7	2	Fire Assay	51-95	2	Mechanical Engineering Topics
35-8	2	Metallurgy of Iron and Steel	51-99	3	Mechanical Engineering Thesis
35-9	1	Technical Gas Analysis	54 GEOLOGY		
35-10	||8	Organic Chemistry	54-1	3	Physical Geology and Geography
35-11	*6	Theoretical Chemistry	54-21	1	Physical Geography and Meteor- ology
35-17	*6	Applied Chemistry			
35-18	*6	Chemistry of Road-building Ma- terials			
35-99	3-5	Chemical Engineering Thesis			

* Two terms; three term hours each.

† Two terms; first term, one term hour; second term, two term hours.

|| Two terms; four term hours each.

§ Two terms; one and one-half term hours each.

54 GEOLOGY (Continued)

54-22	2	Physical Geology
54-23	1	Economic Geology
54-24	2	Historical Geology

61-17	3	Telephone and Telegraph
61-23	3	Dynamo Design.
61-96	2	Electrical Topics
61-99	3-5	Electrical Engineering Thesis

61 ELECTRICAL ENGINEERING

61-3	3	Dynamo-Electric Machinery
61-5	3	Alternating Current Machinery
61-8	3	Electrical Laboratory
61-11	3	Alternating Currents
61-12	3	Dynamo Laboratory
61-14	*6	Electricity
61-15	4	Electrical Engineering
61-16	3	Electrical Engineering

64 MINERALOGY

64-1	3	Mineralogy and Lithology
64-2	3	Crystallography and Descriptive Mineralogy

81 POLITICAL ECONOMY

81-2	*6	Elements of Economics
81-5	3	Engineering Economics

* Two terms ; three term hours each.

Examination Group System

The courses are divided into six groups. Each of these groups has assigned to it three periods of four days each for each half year, during which periods all announced examinations in the courses of that group are given. These examinations are limited to the time assigned to these subjects on the program.

Composition of groups and periods allotted to each are as follows :

FIRST HALF-YEAR

Subject Group	Subject Group	Subject Group	Subject Group
11-1 5	31-2 6	41-14 5	51-15 1
11-5 3	31-7 3	41-31 4	51-17 3
11-9 3	35-1 1	41-40 5	51-26 5
11-13 5	35-2 4	41-46 6	51-95 3
13-1 6	35-4 1	41-47 2	61-3 5
13-2 6	35-5 1	41-95 3	61-11 6
13-3 3	35-9 4	45-1 1	61-12 5
15-2 6	35-10 5	45-3 1	61-14 6
15-3 3	35-11 5	45-12 3	61-15 3
17-1 4	35-17 3	47-1 3	61-17 2
21-1 4	35-18 3	47-1 4	61-23 4
21-8 4	41-3 5	47-95 3	81-2 6
25-8 4	41-12 6	51-1 2	
29-1 1		51-7 6	
29-2 2			
29-4 2			
Group 1. Oct. 16, 17, 19, 20.	Nov. 13, 14, 16, 17.	Dec. 18, 19, Jan. 4, 5	
" 2. Oct. 21, 22, 23, 24.	Nov. 18, 19, 20, 21.	Jan. 6, 7, 8, 9.	
" 3. Oct. 26, 27, 28, 29.	Nov. 30. Dec. 1, 2, 3.	Jan. 11, 12, 13, 14.	
" 4. Oct. 30, 31. Nov. 2, 3.	Dec. 4, 5, 7, 8.	Jan. 15, 16, 18, 19.	
" 5. Nov. 4, 5, 6, 7.	Dec. 9, 10, 11, 12.	Jan. 20, 21, 22, 23.	
" 6. Nov. 9, 10, 11, 12.	Dec. 14, 15, 16, 17.	Jan. 25, 26, 27, 28.	

Final Examinations January 29, 30, February 1, 2, 3.

SECOND HALF-YEAR

Subject Group	Subject Group	Subject Group	Subject Group
11-2 5	31-7 3	41-21 3	51-8 6
11-4 5	35-1 1	41-41 3	51-19 4
11-6 3	35-3 6	41-43 5	51-21 3
11-8 3	35-4 1	41-48 4	51-28 5
13-1 6	35-5 1	41-51 2	61-5 2
13-2 6	35-7 6	41-63 1	61-8 4
15-2 6	35-8 4	45-2 1	61-10 2
17-1 4	35-10 5	45-21 4	61-16 4
21-5 4	35-11 5	47-1 6	61-22 7
21-13 6	35-17 3	47-2 6	61-95 3
25-1 3	41-3 5	47-3 2	81-2 6
29-3 2	41-13 4	47-8 3	
29-5 2	41-17 5	51-3 4	
31-1 1			
Group 1. Feb. 24, 25, 26, 27.	Mar. 24, 25, 26, 27.	Apr. 30. May 1, 3, 4.	
" 2. Mar. 1, 2, 3, 4.	Mar. 29, 30, 31. Apr. 1.	May 5, 6, 7, 8.	
" 3. Mar. 5, 6, 8, 9.	Apr. 2, 3, 5, 6.	May 10, 11, 12, 13.	
" 4. Mar. 10, 11, 12, 13.	Apr. 7, 8, 9, 10.	May 14, 15, 17, 18.	
" 5. Mar. 15, 16, 17, 18.	Apr. 12, 13, 23, 24.	May 19, 20, 21, 22.	
" 6. Mar. 19, 20, 22, 23.	Apr. 26, 27, 28, 29.	May 24, 25, 26, 27.	

Final examinations, June 5, 7, 8, 9, 10.

Departments of Instruction

ENGLISH and MODERN LANGUAGES

The instruction in the department of English and Modern Languages is arranged, first, to give the student a working knowledge of his native tongue and of at least one foreign language; second, to deepen his appreciation of literature. The various subjects are closely coördinated, the purpose of all being the development of the student's power of thinking and the broadening of his outlook.

English Subjects are Open for Election as Follows :

	<i>First Term</i>	<i>Second Term</i>
Sophomore year	11-13 11-5	11-4 11-6 11-8
Junior year	11-13 11-5 11-9 (must be preceded by 11-8)	11-4 11-6 11-8 11-9 (must be preceded by 11-8)
Senior year	11-13 11-5 11-9	11-4 11-6 11-8 11-9

11-1 English. A study of the elemental forms of literary and scientific writing: description, exposition, directions, criticism, argument, and narration, with the ultimate aim of helping the student to think for himself. Reading of illustrative literature. *Four periods a week: one lecture, two recitations, and one ten-minute conference.*

First term. Three term hours.

ASSISTANT PROFESSOR SEAVEY, PROFESSOR EARLE, and MR. FILES

11-2 English. A study of actual problems in expression. Reading in general science and literature under the guidance of weekly lectures. *Four periods a week: one lecture, two recitations, and one ten-minute conference. Preparation, 11-1.*

Second term. Three term hours.

ASSISTANT PROFESSOR SEAVEY, PROFESSOR EARLE, and MR. FILES

***11-4 English.** An advanced subject in general composition, including the writing of daily and fortnightly themes. *Three periods a week: two recitations, and one ten-minute conference. Preparation, 11-2 or 12-2.*

Second term. Two term hours.

PROFESSOR EARLE

11-5 English. A brief survey of English literature and history, from the beginnings to about 1750, aiming to broaden the student's appreciation of what he may get from books, and to suggest ways in which the past throws light on the problems of the present. *Four periods a week: three lectures and one ten-minute conference. Preparation, 11-2.*

First term. Three term hours.

ASSISTANT PROFESSOR SEAVEY

11-6 English. A study of some of the most important literary and scientific developments of the nineteenth century. *Four periods a week: three lectures and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

ASSISTANT PROFESSOR SEAVEY

[11-7 English. Advanced English literature. A study of some author, period, or type. The definite work to be carried on will be outlined by the instructor in charge each June for the following term. *Three periods a week: two recitations and one thirty-minute conference. Preparation, 11-6.*

First term. Two term hours.]

11-8 English. A detailed study of the most important problems of technical writing. *Three periods a week: two recitations and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

PROFESSOR EARLE and ASSISTANT PROFESSOR SEAVEY

11-9 English. An advanced subject in technical composition. No class meetings; each student writes papers from ten to fifty pages in length under the individual direction of the instructor. The subjects are taken, as far as possible, from technical work previously done by the student outside of college, or from special research. *One thirty-minute conference a week. Preparation, 11-8.*

First term; repeated in second term. Two term hours.

PROFESSOR EARLE and ASSISTANT PROFESSOR SEAVEY

***11-13 English.** Argumentative composition adapted to meet the special needs of engineers. *Three periods a week: two recitations and one ten-minute conference. Preparation, 11-2 or 12-2.*

First term. Three term hours.

PROFESSOR EARLE

13-1 French. Elementary course. The essentials of grammar, with composition. Reading of short works of modern authors in prose and verse. Open to Freshmen whose entrance language is Latin, Greek, or Advanced German. It must be followed by 13-2 in the Sophomore year. *First term, five recitations a week; second term, four recitations a week.*

First and second terms. Six term hours.

MR. HILL

* Open to students in the School of Liberal Arts as well as to students in the Engineering School.

13-2 French. Review of grammatical principles especially with reference to syntax. Reading of modern works, including one work related to the technical and scientific studies of the Freshman year. Outside reading; vocabulary practice; dictation and composition. *Three recitations a week. Preparation, elementary entrance credit in French, or 13-1.*

First and second terms. Six term hours.

MR. HILL

13-3 French. Selected works of the nineteenth century; scientific reading; composition; conversation. *Three recitations a week. Preparation, advanced entrance credit in French, or 13-2.*

First term. Three term hours.

MR. HILL

15-2 German. Review of grammatical principles, especially with reference to syntax. Reading of modern works, including one work related to the technical and scientific studies of the Freshman year. Outside reading; vocabulary practice; dictation and composition. *Three recitations a week. Preparation 22-1 or Elementary German for admission.*

First and second terms. Six term hours.

MR. HILL

15-3 German. The rapid reading of modern technical prose in contemporary authors. *Three recitations a week. Preparation, 15-2, or Advanced German for admission.*

First term. Three term hours.

MR. HILL

17-1 Spanish. Elementary course. The essentials of grammar; reading of modern prose; practice in writing Spanish. Open to those who have received a grade of C or higher in French 13-2, 13-3 or 13-4. All others wishing to elect the subject should consult the instructor. *Three recitations a week.*

First and second terms. Six term hours.

MR. SHAPIRO

21 DRAWING

The department of Drawing aims to give a broad and exact training in the language of graphics; to teach the principles of its construction, its technique, and the art of expression by this medium. It is designed to give the student such practice as shall enable him to use this language with fluency whenever and wherever it may serve better than a written or spoken language. The work of the department also includes practice in the use of graphics for the solution of problems relating to the theory of mechanism and its application to machine design.

21-1 Drawing. The course in Freshman Drawing comprises exercises in the proper use and care of drafting tools; a thorough study of the principles of orthographic projection, freehand and mechanical perspective, and isometric drawing. Considerable time is devoted to the freehand sketching of simple parts of machinery and the careful completion of drawings from these sketches. Throughout the course special attention is given to lettering and the composition of titles. *First term, three periods a week of three hours each, and two periods a week of two hours each.*

First term. Five term hours.

ASSISTANT PROFESSORS ASHLEY and CARROLL

21-5 Descriptive Geometry. A course comprising the study of principles and their applications, by the solution of a large number of graded problems in which theory and practice are correlated. *Three periods a week; two hours each.*

Second term. Three term hours.

ASSISTANT PROFESSORS CARROLL and ASHLEY

21-8 Drawing. A study of the technique of graphic expression and its application in giving complete and accurate information to the constructor. Detailed and assembly drawings are made from freehand sketches and other data, but nothing in the nature of a copy is permitted. The work is conducted according to the methods of progressive draftsmen, the greatest emphasis being laid on completeness and accuracy in the use of graphic language. *Three periods a week; two hours each. Preparation, 21-1.*

First term. Three term hours.

ASSISTANT PROFESSOR CARROLL and MR. MACNAUGHTON

21-13 Mechanism. An introductory course, conducted mainly by graphical methods, and dealing with the fundamental laws governing the velocity ratio and paths of mechanical movements and their application to velocity diagrams, simple types of gearing, and other modes of transmission. *Three periods a week; two hours each. Preparation, 21-1.*

Second term. Three term hours.

ASSISTANT PROFESSORS ASHLEY and CARROLL

25 MECHANIC ARTS

Work in the shops is designed to give a practical knowledge of mechanical processes and of the materials of construction. By means of lectures, practical illustrations, actual work in the shops and visits to manufacturing plants the student comes in contact with the most approved methods and processes in engineering practice. In the shops a series of graded exercises is

given, having in view the formation of habits of precision and the development of judgment essential to the engineer.

During the Senior year the knowledge of shop methods already gained is put to actual test in the development of Shop Problems which are carried on under "Production Engineering." The student investigates shop conditions in certain plants as to economical and practical methods of production. It is intended that work in the shop shall always maintain a close relation with the courses in drawing and design, much of the work in design being carried to completion in the shop, from drawings prepared in the drafting-room.

25-1 Pattern Making. Practice is given in the use of bench wood-working tools and the wood-turning lathe for the construction of simple patterns from working drawings. A set of graded exercises leads from simple to the more complicated patterns and core boxes. The methods and principles of foundry practice are introduced in the early part of the course. Much time is spent in the study of working drawings to develop the student's ability to apply the best pattern making and foundry practice, and to understand their relation to shop and drafting room. Visits are made to the shops of large manufacturing plants. *Three periods per week; three hours each.*

Second term. Three term hours.

MR. ADAMS

25-8 Metal Work. This course is introduced by work at the forge in bending, drawing, upsetting, welding, tool-dressing, etc., followed by work at the vise in chipping, filing, and fitting. Lathe work, including straight and taper turning, chucking, boring, reaming, and thread cutting; also drilling, planing, shaper and milling-machine work. *Three periods per week; three hours each.*

First term. Three term hours.

MR. ADAMS

29 MATHEMATICS

The instruction in mathematics is arranged so that fundamental principles of trigonometry, analytics, and calculus may come as early as possible in the course, the more advanced parts of each subject being introduced later. A review of algebra runs through both years in appropriate connection with topics in the other subjects. The prescribed work continues to the end of the Sophomore year, double time being given to mathematics in the first term of the Freshman year. Seniors and Juniors may elect higher courses in the School of Liberal Arts.

29-1 Computation. Right and oblique plane triangles, and spherical right triangles. Trigonometric equations and identities. Arrangement of computations, rounding-off processes, use of logarithms and slide rules. *Three periods a week ; two hours each. Simultaneous with 29-2.*

First term. Three term hours.

PROFESSOR RANSOM, MESSRS. BURDEN and BUSH

29-2 Analytical Geometry and Algebra. Co-ordinate systems, straight lines, circles and conic sections. Simultaneous equations, quadratics, variation. Problems involving tangents, loci, parameters. *Three hours a week. Simultaneous with 29-1.*

First term. Three term hours.

PROFESSOR RANSOM and ASSISTANT PROFESSOR DILLINGHAM

29-3 Freshman Calculus. Fundamental principles. Algebraic differentials and integrals. Differential and integral rate problems. Maxima and minima. Transcendental functions. Areas. *Three hours a week. Preparation, 29-1 and 29-2.*

Second term. Three term hours.

PROFESSOR RANSOM and ASSISTANT PROFESSOR DILLINGHAM

29-4 Sophomore Calculus. Review of differentiation and integration. Summation problems. Use of tables. Centroids, moments and averages. Three dimensional analysis. *Three hours a week. Preparation, 29-3*

First term. Three term hours.

ASSISTANT PROFESSOR DILLINGHAM

29-5 Sophomore Calculus. Approximate integration. Multiple integrals. Taylor's Theorem, and errors. Elements of Differential Equations. *Three hours a week. Preparation, 29-4.*

Second term. Three term hours.

PROFESSOR RANSOM and ASSISTANT PROFESSOR DILLINGHAM

31 PHYSICS

The instruction in General Physics extends through the second term of the first year and the first term of the second year, and is common to all Courses in the Engineering School. It is the purpose of the course to lay a thorough foundation for the subsequent study of theoretical, experimental and technical Physics. The fundamental principles of the subject are developed in a course of illustrated lectures and recitations. Considerable attention is paid to the application of these principles to the solution of problems.

At the beginning of the second year the student enters the Physical Laboratory, where the work performed is, from the beginning, exclusively quantitative. It is designed to teach the student to make accurate measurements, to impart training in the manipulation of instruments employed in physical investigation, and to give practice in properly recording and interpreting experimental data. At the same time it leads to a better understanding of the principles of Physics, with which the student has already become acquainted in the lecture and recitation room.

31-1 Mechanics, Sound, and Heat. The subjects considered are composition of forces, static and kinetic equilibrium, the laws of motion, the energy principle, the simple types of motion including uniform and uniformly accelerated motion, rotation about a fixed axis, simple harmonic motion, and wave motion and resonance; in heat, thermometry, expansion, calorimetry, change of state, transfer, sources, uses, and the laws of thermodynamics. *One lecture and two recitations per week. Preparation, 29-1 and 29-2.*

Second term. Three term hours.

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

31-2 Optics and Electricity. The subject of heat is carried over from the previous semester. Following this, the subjects considered are: Optics, sources of light, photometry, velocity, reflection, refraction, optical instruments, dispersion, color, interference, diffraction, polarization; in electricity, electrostatics, the condenser, the electric current, Ohm's law and applications, power, magnetism, the magnetic circuit, electromagnetic induction, the principles of direct and alternating current machines and instruments. *One lecture and two recitations per week. Preparation, 29-3, 31-1.*

First term. Three term hours.

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

31-7. Physical Laboratory. The earlier experiments relate to the mechanics of solids, liquids and gases. These are followed by experiments in heat including thermometry, vapor pressure, expansion, calorimetry, and mechanical equivalent. The experiments in optics include photometry, refraction, elementary spectrum analysis, and optical instruments. The experiments in electricity include the measurement of resistance, current, electromotive force, and capacity. The use of various instruments of precision, and of graphical methods of interpreting data, is taught, so far as may be, in connection with these experiments. *One period of three hours, with one and one-half hours preparation, weekly. Preparation, 31-1; 31-2 simultaneously.*

First and second terms. Three term hours.

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

35 CHEMISTRY

35-1 General Inorganic Chemistry. An introductory course in theoretical and descriptive inorganic chemistry, with a thorough consideration of the simplest carbon compounds and principal technical processes. *Three periods a week, two lectures, one three hour laboratory period with conferences. First and second terms. Six term hours.*

PROFESSOR DURKEE, MR. BAKER, DR. CHANDLER and ASSISTANTS

35-2 Qualitative Analysis for the detection of the metals, a course which includes the experimental development of schemes for the division of the metals into groups, the separation and detection of the metals in each group, — a study of all the chemical changes and analytical details, together with the correct analysis of six known solutions and thirteen unknown. *Two periods a week ; three hours each ; laboratory work and conference. Six lectures.*

First term. Two term hours. PROFESSOR DURKEE, MR. BAKER and ASSISTANTS

35-3 Qualitative Analysis, Advanced, dealing with methods to effect solution of solids, the detection of mineral and common organic acids, the complete analysis of inorganic solids, including mixtures of salts, minerals, alloys, and slags. Three known and thirteen unknown are required, and thorough study of the chemical changes and conditions involved in the analyses. *Two periods a week ; three hours each ; laboratory work and conference.*

Second term. Two term hours. MR. BAKER

35-4 Quantitative Analysis. Theory and practice of gravimetric and volumetric analysis, including the determination of chlorine by the ordinary and Gooch crucible methods, iron and sulphur in ferrous ammonium sulphate, silica in a silicate, phosphorus in a phosphate, complete analysis of dolomite, and brass, preparation of strictly half-normal sodium hydroxide and hydrochloric acid solutions, the volumetric analyses of soda ash and oxalic acid, the analysis of iron ore by the dichromate and permanganate methods, determination of chromium in chromite, of antimony by the iodine method, and silver by the sulphocyanate method. *Three periods a week ; three hours each ; laboratory work and conference.*

First and second terms. Six term hours. PROFESSOR DURKEE

35-5 Quantitative Analysis. Technical. Work varied somewhat to meet the needs of individual students. Course ordinarily comprises proximate analysis of coal, nitrogen in coal, by Kjeldahl's method, complete analysis of boiler scale, mineral and sanitary analysis of water, determination of copper in ores by iodine and cyanide methods, of zinc by ferro-cyanide

method, complete analysis of Babbitt metal, determination of lead in ores and manganese, sulphur, phosphorus, silicon and carbon in iron and steel. *Three periods a week ; three hours each ; laboratory work and conference.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-7 Fire Assay. A course which deals with the theory and practice of sampling and assaying gold and silver ores. *Two periods a week ; three hours each ; laboratory work and conference.*

Second term. Two term hours.

PROFESSOR DURKEE

35-8 Metallurgy of Iron and Steel. Considered largely from the chemical side, and includes the study of ores, fluxes, fuels, furnaces, and the other mechanical devices used in the commercial production of pig iron, wrought iron, and steel, together with the solution theory of iron and steel, heat treatment of steel, and production of malleable cast iron. *Two periods a week ; one hour each ; lectures and recitations.*

Second term. Two term hours.

MR. BAKER

35-9 Technical Gas Analysis, by the Orsat, Elliot, and Hempel systems. *One period a week, of three hours.*

First term. One term hour.

PROFESSOR DURKEE and ASSISTANT

35-10 Organic Chemistry. This course consists of lectures, recitations, and laboratory work. It is intended to familiarize the student with the typical compounds of carbon and their more important derivatives. The work in the laboratory includes the preparation of certain of the more important substances referred to in the lectures, and the identification of certain classes of compounds. *Four periods a week ; three lectures ; one three-hour laboratory period.*

First and second terms. Eight term hours.

DR. CHANDLER

35-11 Theoretical Chemistry. The subject matter of this course consists largely of the principles usually included under the head of Physical Chemistry. The work in the laboratory consists of physical chemical measurements and experiments of a physical chemical nature. *Three periods a week, two lectures, one three-hour laboratory period.*

First and second terms. Six term hours. ASSISTANT PROFESSOR COBB

35-17 Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. *Three periods a week. Two lectures or recitations, and one three-hour laboratory period.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-18 Chemistry of Road-building Materials. The origin, production, refining, and chemical analysis of tars, asphalts, petroleum and coal tar oils, Portland and other cements. The course is designed for advanced students in highway engineering, and should fit them for efficient service in cement laboratories and cement plants, and for testing the bituminous materials now so widely applied to road surfaces. *Three periods a week ; three hours each ; laboratory work and conference. Preparation, 41-21, 35-1, and 35-2.*

First and second term. Six term hours.

PROFESSOR DURKEE

35-99 Chemical Engineering Thesis. The development of a Chemical Engineering problem by extended personal research. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSOR DURKEE and DR. CHANDLER

41 CIVIL ENGINEERING

41-3 Surveying. In this course each student obtains field practice with transit, level and plane table ; also, an office drill in plotting and in surveying computations. The problems that are selected for both field and office are intended to illustrate general surveying principles and are considered to be well adapted to the needs of engineers in all courses. They include surveying problems that are incident to building construction and the installation of machinery, as well as problems that occur in ordinary surveys for topography and for area. Text-books ; Tracy's Plane Surveying, and Topographical Drawing, by Daniels. *One three-hour period a week, first term ; two three-hour periods a week, second term. Preparation, 29-1.*

First and second terms. Total, three term hours.

MR. BURDEN

An equivalent for this course may be taken during the summer.

41-12 Railroad Surveying. The greater part of the problems selected for this course are based on information secured by the student while engaged in the reconnoissance and preliminary survey of a short line of proposed railroad near the College. These problems consist of the more important ones that daily arise in the practice of the railroad engineer, and they comprise the determination and location of all simple and compound curves that might be required for the final location of any line ; the accurate plotting of the survey notes by means of a system of co-ordinates ; a preliminary estimate of the materials of construction required, and the completion of all drawings. Text books : Railroad Curves and Earthwork by Allen. *Three periods a week ; three hours each. Preparation, 41-3.*

First term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-13 Railroad Engineering. A thorough analysis, both theoretical and practical, of the transition spiral; the study of earthwork computations, use of the mass diagram, determining cost of overhaul, use and computation of the vertical curve, proper methods of attack in steam-shovel work, the design and estimate of trestle construction, of culverts and waterways, and a general treatment of methods employed in locating all structures of standard design that support the roadbed. A brief study is made of the analysis of labor costs, and of the general principles underlying the scientific management of materials and men. Textbooks: *The Railway Transition Spiral*, by Talbot; *American Civil Engineering Pocketbook*. *Three periods a week; one hour each. Preparation, 41-12.*

Second term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-14 Railroad Engineering. A recitation course comprising the study of tunnel design, roadbed construction, track materials and track work, frogs and switches, yard and terminal layouts, siding design and construction, signaling and interlocking, equipment and tools, and the general principles of railroad maintenance. Problems are given in the elementary economic principles involved in railroad upkeep, the treatment of ties, and the capitalized comparison of structures. The student may be required to develop a proposed siding both for the design and the actual staking. Textbooks: *The American Civil Engineers' Pocketbook*. *Three periods a week; one hour each. Preparation, 41-13. First term. Three term hours.*

ASSISTANT PROFESSOR CONNER

41-17 Railroad Engineering Economics. Lectures and recitations on the economic principles underlying the proper management of all engineering business associated with the location, development, management, and operation of a railroad. A general outline of the procedure in financing railroad ventures is given with the attendant principles involved in bonding and under writing such projects, and their application is fully demonstrated by the solution of typical problems. Text book: *Economics of Railroad Construction*, by Webb. *Three periods a week; one hour each. Preparation, 41-14.*

Second term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-21 Highways and Cements. Lectures and recitations on the history of roads and pavements; subdrainage and surface drainage; foundations; earth and broken stone roads; brick, wood and stone block pavements; asphaltic and concrete pavements; use of dust palliatives; cleaning and sanitation of streets; sewer, gas, water and other pipe systems; machinery used in road construction.

Laboratory work consists of the mechanical analysis of sand and the proportioning of concrete by sieve analysis; determination of silt in sand; testing Portland cement by standard specifications; road-building properties

of asphaltic oils, and bituminous materials; tests of wearing and cementing qualities of rocks and abrasion test of paving brick.

Office and field work comprise the preparation of plan and cross sections from survey notes of an existing unimproved road; location of a highway from contour plan; actual survey, design and mapping of streets including determination of proper grades at street intersections; inspection of roads. Text book: American Civil Engineers' Pocketbook. *One recitation and one three-hour laboratory period per week. Preparation, 41-3.*

Second term. Two term hours.

MR. BURDEN

41-31 Geodesy. The determination of a true meridian by star and solar observations, accurate measurement of a base line, of angles in a triangulation system, and the adjustment of observations by the method of least squares. *Two periods a week; three hours each. Preparation, 41-3.*

Second term. Two term hours.

ASSISTANT PROFESSOR CONNER

41-40 Hydraulics. Theoretical and Applied, including the laws that relate to the pressure and flow of water in pipes, the discharge through weirs, tubes, and canals, together with a treatment of the elementary principles of water turbines. Text book: A Treatise on Hydraulics, by Merri-man. *Three periods a week; one hour each. Preparation, 29-3 and 45-12.*

First term. Three term hours.

PROFESSOR SANBORN

41-41. Hydraulics. A course similar to 41-40 differing from it only in length. Specially planned for students in Mechanical and Electrical Engineering. *Two periods a week; one hour each.*

Second term. Two term hours.

PROFESSOR SANBORN

41-43 Hydraulic Measurements. Experiments on contracted and submerged weirs, standard nozzles, proportional water meter, impulse water wheel, duplex pump, and centrifugal pump; river and canal gaugings by rod floats, and current meter. Tests of 100 horsepower turbine, 36-inch Venturi Meter, 40-inch riveted pipe, and 10-foot weir. Text book: A treatise on Hydraulics, by Merriman. *Two periods a week; three hours each. Preparation, 41-40.*

Second term. Two term hours.

PROFESSOR SANBORN

41-46 Water Supplies. The examination of water supplies, quality of water, communicable diseases, purification of water, water supplies, pipes, reservoirs, dams, pumping machinery. Textbook; American Civil Engineers' Pocketbook. *Three periods a week; one hour each. Preparation, 41-40.*

First term. Three term hours.

PROFESSOR SANBORN

41-47 Water Power Engineering. Water shed areas, stream flow, hydraulics of water wheels and turbines, turbine testing, selection of turbine for given conditions, water-power development and value of privileges. Text book: Water Power Engineering, by Mead. *Three periods a week; one hour each. Preparation, 41-40, or 41-41.*

First term. Three term hours.

PROFESSOR SANBORN

41-48 Sewerage. Purification of sewage, the design of a sewerage system, forms of construction, modern methods of sewage and garbage disposal. Text-book: American Civil Engineers' Pocketbook. *Three periods a week; two hours each. Preparation, 41-46.*

Second term. Three term hours.

PROFESSOR SANBORN

41-51 Fire Protection Engineering. Fire streams, fire pumps, meters, pipe systems, including automatic sprinklers, watchman service, public fire departments, fire causes, and fire-proof and slow-burning construction. Recitation and design from field practice. *Two periods a week; two hours each. Preparation, 41-40 or 41-41.*

Second term. Two term hours.

PROFESSOR SANBORN

41-63 Contracts. The essential elements of all contracts, their formation and modes of discharge, the fundamental principles of successful writing and interpretation of contracts for the erection of engineering works, are carefully considered. Commercial contracts are also studied, including contracts of association, of sale, of transportation, and instruments of credit. The duties and legal responsibilities of the engineer as agent, business man, or independent contractor are emphasized, and some practice is had in writing engineering contracts and specifications. Text book: Contracts in Engineering by Tucker. *Three periods a week; one hour each.*

Second term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-95 Civil Engineering Topics. Presentation and discussion of engineering topics. Text book: Proceedings of the American Society for Civil Engineers for the present year. *Two periods a week; one hour each. Preparation, Junior Civil Engineering courses.*

First term. Two term hours.

PROFESSOR SANBORN

41-99 Civil Engineering Thesis. A special investigation by research, design, or experimentation. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSOR SANBORN and ASSISTANT PROFESSOR CONNER

45 APPLIED MECHANICS

45-1 Applied Mechanics. This is a consideration of the principles of the strength of materials, relating to beams, columns and shafts. In the development, the following subjects are treated in detail: centre of gravity; moment of inertia; the laws of elasticity; coefficients of elasticity; relations between stress and strain; pure stresses, as tension, compression, and shear; elastic limits, working stresses and ultimate resistances of wrought iron, steel, timber, and concrete; reactions and bending moments of beams;

bending moment and shear diagrams; theory of flexure. It includes also the design and construction of steel and timber beams, columns, and shafts. *Three periods a week; recitations and lectures with numerous problems. Preparation, 29-4 and 45-21.*

First term. Three term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

45-2 Applied Mechanics. This course deals with the stresses in simple framed structures, including an introduction to the methods of graphic statics, and a brief treatment of the principles of mechanics involved in masonry design. *Three periods a week; recitations and lectures with problems. Preparation, 45-1.*

Second term. Three term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

45-3 Structural Mechanics. A treatment of the mechanics of masonry and reinforced concrete structures, including the design of retaining walls abutments, masonry arches, chimneys, dams, and foundations. *Three periods a week; recitations and lectures with problems and designs. Preparation, 45-2.*

First term. Three term hours.

PROFESSOR ROCKWELL

45-12 Applied Mechanics Laboratory. This course deals with the resistance of the materials of construction, and comprises the testing of cast iron, steel, wrought iron, timber, and concrete in tension, compression, and shear, and the determination of the elastic limits, ultimate strengths, and coefficients of elasticity of these materials. *One period a week; two hours. Simultaneous with 45-1.*

First term. One term hour.

ASSISTANT PROFESSOR SMITH

45-21. Mechanics. A course in the fundamental principles of general mechanics with numerous applications to engineering problems. Statics, motion, dynamics, work and energy, and friction. *Three periods a week; Preparation, 29-3 and 31-1.*

Second Term. Three term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

47 STRUCTURAL ENGINEERING

47-1 Roofs and Bridges. A study of the fundamental principles of Structural Engineering. It includes the theory of algebraic and graphical stress analysis for statically determinate structures, including roofs, bridges, towers, etc., and the design of structural members and details. *Three periods a week; lectures and recitations, with problems. Preparation, 45-2.*

First term. Three term hours.

PROFESSOR ROCKWELL

47-2 Theory of Structures. An advanced course in the theory and design of structures. The method of influence lines is used to a considerable extent in addition to the usual algebraic methods. *Three periods a week; lectures and recitations, with problems. Preparation, 47-1 and 45-3.*

Second term. Three term hours.

PROFESSOR ROCKWELL

47-3 Structural Design. An introductory course in the design of framed structures. It consists of (a) the critical examination of and report on some existing structure and (b) the design and detail drawings of a plate girder bridge, and a steel roof truss. *Three periods a week; three hours each. Simultaneous with 45-2.*

Second term. Three term hours.

ASSISTANT PROFESSOR SMITH

47-7 Bridge Design. A course in the design of riveted and pin connected steel bridges. It consists of (a) one complete design of a typical bridge, including a critical study of the important details, carried on under the guidance of the instructor, and then (b) each student is given a different set of data from which he is required to make an independent design and general drawing. *Three periods a week; three hours each. Preparation, 47-3. Simultaneous with 47-1.*

First term. Three term hours.

ASSISTANT PROFESSOR SMITH

47-8 Structural Design. The design of masonry and reinforced concrete structures. *Two periods a week; three hours each. Preparation, 45-3.*

Second term. Two term hours.

PROFESSOR ROCKWELL

47-95 Structural Topics and Reports. Reports by each student on assigned reading in engineering literature, and on the stability and safety of structures, based on a personal examination by the student. The presentation is by lecture, but a written copy of each report must be left with the department. *Two periods a week; one hour each. Preparation, credit in required work of the Junior year.*

First term. Two term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

47-99 Structural Engineering Thesis. A single topic is developed by extended research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

51 MECHANICAL ENGINEERING

51-1 Steam Engine. This course deals with the generation of steam and its use in the steam engine. It comprises a study of modern types of boilers and their auxiliary apparatus, simple and compound

engines, both condensing and non-condensing; a discussion of the elementary principles of thermodynamics and of the use of the indicator in steam engine practice. Some attention is given to the production of gas for power purposes and its use in the gas engine. *Three periods a week; one hour each. Preparation, 21-13 29-3 and 31-1.*

First term. Three term hours.

PROFESSOR CHASE

51-3 Engineering Thermodynamics. This course is devoted to the thermodynamics of the steam engine and other heat engines, and includes a study of the properties of steam, gas and air as used in steam engines, turbines, gas engines, air compressors and blowers; also the working fluids and saturated vapors used in refrigeration. The object of the course is to teach the principles, and their application to practical problems. *Three periods a week; one hour each. Preparation, 29-4 and 51-1.*

Second term. Three term hours.

PROFESSOR CHASE

51-7 Engine Design. The design of the steam turbine, steam engine and gas engine, involving the strength and proportion of parts and including the layout of the valve gear of high speed engines, the Corliss gear and locomotive valve gears. *Three periods a week; two hours each. Preparation, 51-3, and simultaneous with 51-15.*

First term. Three term hours.

PROFESSOR CHASE

51-8 Power Plant Design. A study of steam power plant equipment, including the selection of boilers and engines; pumps, heaters, condensers; arrangement of piping; chimneys, mechanical draft; mechanical stoking, coal handling. Boiler design, including calculations for one type of boiler. *Three periods a week; two hours each. Preparation, 51-7.*

Second term. Three term hours.

PROFESSOR CHASE

51-15 Dynamics of Machinery. A graphical and analytical consideration of the transmission of energy in machines and power transmission. The construction of inertia curves and crank effort diagrams applied to the solution of problems relating to fluctuations in speed, flywheels, balancing of moving parts and regulation by governors. *Three periods a week; one hour each. Preparation, 21-13 and 45-2.*

First term. Three term hours.

PROFESSOR CHASE

51-17 Machine Design. An application of the principles of mechanism and mechanics to the solution of definite problems in the design of a representative type of machine. A systematic training of the judgment is an important part of this course. *Three periods a week; three hours each. Preparation, 21-8, 21-13 and 45-2.*

First term. Three term hours.

PROFESSOR ANTHONY and MR. MACNAUGHTON

51-19 Production Engineering. A study of the efficiency of machine tools, the design and construction of special tools for the manufacture of machinery, the investigation of shop conditions and practice for the economical production of machine parts. *Three periods a week; three hours each. Preparation, 25-8 and 51-17.*

Second term. Three term hours.

PROFESSOR ANTHONY and MR. MACNAUGHTON

51-21 Mechanical Engineering Laboratory. Efficiency of simple machines; screw threads; hoists, simple, duplex, triplex; transmission of power by belts. The determination of the clearance of engines; valve setting on plain slide valve, riding cutoff, and Corliss engines. Gage testing; the adjustment and use of indicators; testing indicator springs; the use of several types of steam calorimeters; injector test; flow of steam through orifices. The results of all laboratory work are submitted in the form of carefully written reports. *Two periods a week; three hours each. Preparation, 51-1.*

Second term. Two term hours.

MR. MACNAUGHTON

51-26 Mechanical Engineering Laboratory. Steam engines, pumps and auxiliary apparatus. Tests on riding cut-off shaft governor and Corliss engines; a $16 \times 8\frac{1}{2} \times 9$ duplex steam pump; measurement of water by weir, nozzle and meter; condenser tests; analysis of flue gases. Internal combustion engines. Tests on a 10 H.P. 4 cycle gas engine, 11 H.P. 2 cylinder, 2 cycle gasoline engine, automobile engines and marine type engines, including instruction and practice in their operation. *Three periods a week; three hours each. Preparation, 51-3 and 51-21.*

First term. Three term hours.

PROFESSOR CHASE, MR. ADAMS and MR. MACNAUGHTON

51-28 Mechanical Engineering Laboratory. Tests on a horizontal return tubular boiler; determination of the velocity of steam through ports; coefficients of friction with different oils and friction on different types of bearings; test on a 35-inch exhaust fan; tests on a steam turbine and on an air compressor; test at a 2000 K.W. power station, and other tests which may be arranged. *Three periods a week; three hours each. Preparation 51-26.*

Second term. Three term hours.

PROFESSOR CHASE and MR. MACNAUGHTON

51-95 Mechanical Engineering Topics. A course of lectures by students. Each member of the course chooses three topics from the proceedings of the American Society of Mechanical Engineers. The subjects are presented to the class in the form of lectures, followed by discussion and criticism. *Two periods a week. Preparation, Junior Mechanical Engineering courses.*

Second term. Two term hours.

PROFESSORS ANTHONY and CHASE

51-99 Mechanical Engineering Thesis. An essay based on extended personal research, design, or experimentation. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSORS ANTHONY AND CHASE

54 GEOLOGY

The subjects offered in the department of Geology do not form a sequence, but are intended to give different classes of students that knowledge of geology and mineralogy which they need. In all cases, they aim to include some real grasp upon the structure and history of the earth, the problems presented in the study thereof, and the modes of attack upon those problems. The first subject (Geology 1) is introductory, open to all, and intended primarily for those who have had no previous work in science. The other subjects are such that certain preliminary studies, stated in connection with each, must be taken before entering upon them.

The illustrative collections in these lines are ample. Besides exhibition specimens in the Barnum Museum, there is a working collection illustrating mineralogy, lithology, and dynamical and historical geology. These are supplemented with maps, diagrams, photographs, and lantern slides. The work in each subject consists of lectures and recitations, together with work in the laboratory and in the field. Excursions are taken to neighboring points that illustrate certain phenomena. Tufts College is well placed for field work and for the study of various natural processes.

54-1 Physical Geology and Geography. Lectures, recitations, and field work. Mainly for those intending to teach. *Three periods a week; one hour each; and seven half-day excursions.*

Second term. Three term hours.

PROFESSOR LANE

***54-21 Physical Geography and Meteorology.**

First term. One term hour.

PROFESSOR LANE

***54-22 Physical Geology.**

First term. Two term hours.

PROFESSOR LANE

* 54-21 and 54-22 must be taken together, and they or 54-1 must precede 54-24. A knowledge of chemistry and mathematics is presupposed.

54-23. Economic Geology.*Second term. One term hour.*

PROFESSOR LANE

54-24. Historical Geology.Second term. Two term hours.*

PROFESSOR LANE

61 ELECTRICAL ENGINEERING

The aim of the work in this department is to fit men to deal intelligently with electrical problems likely to be presented to the practical engineer. With this in view, principles rather than details are emphasized, and these principles are developed and fixed by the free use of concrete problems as well as by laboratory experiments and tests.

61-3 Dynamo Electric Machinery. An elementary course dealing with the fundamental principles of dynamo electric machinery and their application in the construction and operation of generators and motors. Some attention is also given to storage batteries, arc and incandescent lamps and systems of direct-current distribution. *Three periods a week; one hour each. Preparation, 31-2.*

First term. Three term hours.

ASSISTANT PROFESSOR MUNRO

61-5 Alternating Current Machinery. A course treating of the theory, construction, and operation of synchronous machinery. *Three periods a week; one hour each. Preparation, 61-3.*

Second term. Three term hours.

ASSISTANT PROFESSOR MUNRO

61-8 Electrical Laboratory. Electrical measurements and testing, including, in addition to the more common measurements, calibration of instruments, study of arc and incandescent lamps, and direct current dynamos. *Three periods a week; three hours each. Preparation, 61-3.*

Second term. Three term hours.

ASSISTANT PROFESSORS ROLLINS and MUNRO

61-11 Alternating Currents. The mathematical development of equations and formulas from elementary electrical principles, and the physical interpretation of the equations and formulas thus developed. *Three periods a week; one hour each. Preparation, 31-2, 45-21, and 29-5.*

First term. Three term hours.

PROFESSOR RANSOM

61-12 Dynamo Laboratory. Alternating current testing. *Three periods a week; three hours each. Preparation, 61-5.*

First term. Three term hours.

ASSISTANT PROFESSORS ROLLINS and MUNRO

* See foot-note on preceding page.

61-15 Electrical Engineering. A course dealing with the production, transmission, distribution, and utilization of electrical power. *Three recitations a week, with solution of assigned problems. Preparation, 61-5.*

First term. Three term hours.

ASSISTANT PROFESSOR ROLLINS

61-16 Electrical Engineering. A continuation of 61-15. *Three periods a week; one hour each. Preparation, 61-15.*

Second term. Three term hours.

PROFESSOR HOOPER

61-17 Telephone and Telegraph. A course on principles and operation of telephone and telegraph systems. *Three periods a week. Preparation, 31-2 and 61-3.*

First term. Three term hours.

ASSISTANT PROFESSOR ROLLINS

61-23 Dynamo Design. A course dealing with the application of the laws of electricity and magnetism to the calculations of electrical apparatus. *Three periods a week; two hours each. Preparation, 61-3 and 61-5.*

First term. Three term hours.

ASISTANT PROFESSOR MUNRO

61-96 Electrical Topics. Lectures by students on electrical subjects, followed by discussion and criticism. *Three periods a week. Preparation, 61-15.*

Second term. Two term hours.

ASSISTANT PROFESSOR ROLLINS

61-99 Thesis. An essay based on some construction, design, or investigation. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSOR HOOPER, ASSISTANT PROFESSORS ROLLINS and MUNRO

64 MINERALOGY

64-1 Mineralogy and Lithology. *Two recitations and four hours laboratory work a week. Preparation, 35-1.*

First term. Three term hours.

PROFESSOR LANE

64-1 Mineralogy alone is of use to civil and structural engineers, but those who are looking to mining or chemical engineering should also take 64-2.

[64-2 Crystallography and Optical Mineralogy.] *Two lectures and four hours laboratory work a week. Preparation, 64-1.*

Second term. Three term hours.

PROFESSOR LANE]

81 POLITICAL ECONOMY

81-2 Elements of Economics. Designed especially for students of engineering; aims at a comprehensive study of the elements of economics, with special reference to present day economic and social problems. Text book (Taussig, Principles of Economics), lectures, tests. *Three recitations a week.*

First and second terms. Six term hours.

PROFESSOR METCALF

81-5 Engineering Economics. The purpose of this course is to acquaint the student with problems involved in the handling of public service and industrial corporations; to make a study of the financial, legal, and operating elements of the problem; to include the investigation of the physical elements for the purpose of accomplishing economic betterments; the study of the principles of commercial capitalization, its functions, together with the profit possibilities; the methods employed in financing engineering projects by bond and stock issues; the elements of appraisals and valuations of business corporations; the study and application of the terms, amortization, depreciation, appreciation, obsolescence with reference to the field of engineering business; the elements of economic organization and management with a study of the underlying scientific principles; the duties of the banker's engineer and of the engineering promoter in the investigation of new projects and reorganization of old ones. The work of the course will be confined principally to mechanical, electrical and chemical engineering problems, for which reason this course is open only to seniors in these departments of the Engineering School. *Three hours a week; lectures, assigned readings, problems and reports.*

First term, three term hours.

ASSISTANT PROFESSOR CONNER

THE GRADUATE SCHOOL

Faculty of the Graduate School

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

CHARLES E. FAY, A.M., LITT.D., DEAN

Wade Professor of Modern Languages

WILLIAM H. REED, A.M., SECRETARY

EDWIN C. BOLLES, PH.D., D.D., LL.D.

Dickson Professor of English and American History

WILLIAM L. HOOPER, AM., PH.D.

Professor of Electrical Engineering

RICHARD JONES, PH.D.

Professor of English Literature

ALFRED C. LANE, A.M., PH.D., SC.D.

Professor of Geology and Mineralogy

LEE S. MCCOLLESTER, S.T.D.

Dean of the Crane Theological School

FRANK W. DURKEE, A.M.

Professor of Chemistry

GEORGE VAN NESS DEARBORN, A.M., PH.D., M.D.

Professor of Physiology

HERBERT V. NEAL, PH.D.

Professor of Zoology

WILLIAM K. DENISON, A.M.

Professor of the Latin Language and Literature

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

FRANK G. WREN, A.M.

Walker Professor of Mathematics

ARTHUR I. ANDREWS, PH.D.

Professor of History

*PHILIP H. COBB, PH.D.

Assistant Professor of Organic Chemistry

*Absent on leave.

STANDING COMMITTEES OF THE GRADUATE SCHOOL

EXECUTIVE: President Bumpus, *Chairman*; Dean Fay and Professor Denison.

REQUIREMENTS FOR DEGREES: Dean Fay, *Chairman*; Professors Metcalf and Durkee.

The Graduate School

INSTRUCTION

Graduate instruction is given by members of the several existing faculties. The advanced elective work offered to undergraduates in any department of the School of Liberal Arts is open to graduate students,* and will count for the degree of Master of Arts, on condition that it be not counted for any other degree. More advanced courses are arranged with the instructor in whose department the work is to be done.

DEGREES

The degrees offered are Master of Arts and Master of Science. Departments open to candidates for the Master's degree are:—

ENGLISH	MATHEMATICS
MODERN LANGUAGES	ELECTRICITY
ANCIENT LANGUAGES	CHEMISTRY
HISTORY AND PUBLIC LAW	BIOLOGY
POLITICAL SCIENCE	PHYSIOLOGY

THE DEGREE OF MASTER OF ARTS will be conferred upon graduates of Tufts College who have received the degree of Bachelor of Arts, or upon graduates of other colleges whose course of study has been equivalent to that required at Tufts College for the degree of Bachelor of Arts, upon the following conditions :—

1. They shall have completed an approved course of advanced study, including the equivalent of at least thirty term hours, in one or at the most two departments. If two departments are chosen they should be allied, and should note the relation of major and subsidiary department.

*Students doing work in undergraduate classes are required to take the appointed final examination with these classes.

2. This course shall be pursued during a residence of not less than one year. In the case of graduates of Tufts College, the condition of residence may be waived by special permission, but the degree cannot then be taken with less than two years of graduate study.

3. The candidate shall prepare a thesis in the form prescribed by the regulations, which may be ascertained at the Secretary's office, and shall pass a satisfactory examination under the supervision of a board of three examiners, appointed by the Graduate Faculty at its stated meeting on the Wednesday following the last Monday in May. The thesis must be presented at least one month before Commencement.

4. No subject counted for the first degree will be counted for the second degree.

5. Students taking the advanced degree at the end of a four years' course of study must have complied with the requirement as to standing governing those who receive the degree of A.B. at the end of three years; that is, an average standing of Grade B, must have been attained on the entire work of the undergraduate course.

6. Candidates for this degree should make a written application to the Graduate Faculty as early as September 20th of the college year in which the degree is to be conferred, and if the degree is not taken after one year of study they must also give a second notice three months before receiving the degree. Their application must specify the department or departments in which it is proposed to pursue work for a degree.

Graduates of Tufts College who have taken the degree of Bachelor of Philosophy, or graduates of other colleges holding a degree of similar grade, must complete the requirement for the degree of Bachelor of Arts before they can be entered as students in courses leading to the degree of Master of Arts.

THE DEGREE OF MASTER OF SCIENCE will be conferred upon Bachelors of Science who shall satisfactorily pursue advanced professional study at Tufts College for one year, under the conditions required of candidates for the degree of Master of Arts; or upon Bachelors of Science of Tufts College who shall pursue graduate study *in absentia* for at least two years, or who shall present suitable evidence of three years of professional work, one year of which must be in a position of responsibility. A thesis based upon this study will be required.

DEPARTMENTS OPEN TO CANDIDATES FOR THE DEGREE OF MASTER OF ARTS

[For detailed statements of the subjects referred to in the following pages, see "Departments of Instruction" in the announcement of the School of Liberal Arts.]

ENGLISH.—It is assumed that candidates for the degree of Master of Arts in English will have already laid a good foundation in English composition and the history of English literature. The amount of work expected is roughly indicated by that required of a major student in English at this College. When not anticipated in undergraduate work, the subjects numbered 7, 10, 14 to 21, 23 to 26, 29, 34, and 36 may be counted towards the Master's degree, provided that the work done distinctly surpasses in quality and quantity that required of undergraduates. On the other hand, a part of the work or the entire work for the advanced degree may consist of a special course of study, undertaken under the direction of the department. Such special work must be of creative or investigative order. It may take the form of discussion of some question in literary history or literary criticism. It may consist of the intensive study of an author or a period. The use of German and French is sometimes necessary. A final oral examination is customary.

MODERN LANGUAGES.—The undergraduate subjects at present offered in Modern Languages enable the candidate for the degree of Bachelor of Arts who specializes in this department to cover the work formerly required for the Master's degree. Hence the earlier part of the work of candidates who have not taken the more advanced subjects, corresponds with that announced for undergraduate classes. To enter upon these courses, the candidate must have completed the equivalent of the Modern Language subjects, including 1 and 3 in both German and French, and 3B and 4 of the language in which the degree is sought. Of "elementary" subjects only Italian may be taken.

Graduate students whose special work is being performed in other departments are admitted to such classes in German and French, beyond subject 1, as their proficiency may warrant.

ANCIENT LANGUAGES. — Candidates for the degree of Master of Arts in Greek or Latin must have completed, for Greek, subjects 1, 2, 3, and 4 or 5; for Latin, subjects 1, 2, 3 or 4, and 5, or equivalents. It is desirable that candidates for this degree in either of the ancient languages present the other as a minor department. Exceptional cases will be treated in accordance with the varying circumstances. Greek 4, 5, 7, Latin 3, 4, 6, and Classical Archæology 1, 2, 3, 4, 5, 6, 7, and 8, so far as these have not been anticipated as undergraduate work, may be counted towards the Master's degree. Graduate students will be expected to do work of an advanced character, either in classes with undergraduates or on special lines of investigation assigned by the instructors. The required thesis, on an approved topic, must embody the results of the investigation of some author or period, or of some philological or archæological subject. A reading knowledge of French and German is indispensable.

HISTORY AND PUBLIC LAW.—Before beginning graduate work in History and Public Law every student must have completed History 1 and 2, and Public Law 1 or 2, or their equivalent. The advanced subjects enumerated in the catalogue, in so far as they are suited to the needs of the candidate, may be offered for the higher degrees, but it is expected that much of the candidate's work will consist of special work pursued under the direction of the department.

For the degree of Master of Arts, a working knowledge of French is essential. A similar knowledge of German is desirable, and in some cases may be necessary. In addition to the subjects required for the degree candidates will be expected to do something in the way of an independent investigation of a definite subject, the result to be embodied in a thesis.

A final oral examination is customary.

POLITICAL SCIENCE.—The degree of Master of Arts in Political Science is conferred on graduates of Tufts College who pursue successfully one year of resident graduate study. Bachelors of Arts of other colleges must satisfy the department

that they are qualified by previous training to enter upon the desired course of study, and show the results of a year's resident graduate work with high credit. A good reading knowledge of French and German is desirable, and may in certain lines of work be necessary. Before receiving the degree all candidates are expected to sustain a final oral examination, and give evidence by a thesis of their ability to do work of an investigative order. In addition to the regular advanced work offered by the department, special subjects giving opportunity for original investigation will be outlined for candidates wishing to pursue them.

MATHEMATICS.—Graduate students in Mathematics must have acquired a working knowledge of the calculus, and may offer as part of their work for the Master's degree any of the subjects given by the department except the first six, but subjects 7, 9, and 10, or their equivalents, must be included. Candidates will hold themselves in readiness to be examined at the end of their studies upon any topics treated in the first six subjects, as well as upon work offered for the degree.

ELECTRICITY.—As a preparation for graduate work in Electricity the candidate must have a good mathematical foundation, including some knowledge of differential equations, must have credit in Physics 31-1, 31-2, and 31-7, or their equivalents, and should have completed Electricity 61-3, 61-4, and 61-5. The last three subjects may count towards the Master's degree if not already counted towards the first degree.

Of the thirty term hours required, nine may be used in the preparation of a thesis.

CHEMISTRY.—The requirements for beginning graduate work in Chemistry are the completion of subjects 1, 2, and 3, or their equivalent. Subjects 4, 5, 7, 8, 9, 10, and 12 may be counted toward the Master's degree, if they have not been counted as undergraduate work. Examination is required, and a satisfactory thesis.

BIOLOGY.—Before beginning graduate work in Biology the student must have a good knowledge of the elements of vertebrate and invertebrate anatomy and of physiology (subjects 1 to 4 of Tufts College, or their equivalent), and must be able to use French and German. The work offered for advanced degrees is in the lines of comparative anatomy and of the histology and embryology of animals. Consequently the greatest stress will be laid upon laboratory work, but students may also take the subjects numbered 5, 8, 9, 11, and 14.

For the degree of Master of Arts or Master of Science the student must pass a satisfactory examination in the principles of morphology, and present an acceptable thesis embodying the result of research.

PHYSIOLOGY.—Before beginning graduate work in Physiology the candidate for the degree of Master of Arts must have had at least a year's training in biology, and, besides, a knowledge of the outlines of anatomy and physiology such as may be obtained from such works as Martin's Human Body, with simple laboratory experiments. A reading knowledge of French and German is desirable, and in some cases may be necessary. The work of the year is largely practical. It involves the completion of the work in physiology required of candidates for the degree of Doctor of Medicine, and, in addition, the investigation of some simple problem which shall serve as the basis of the required thesis.

SCHOLARSHIPS

The Trustees of Tufts College have established eleven scholarships, one in each department offering graduate work. Each scholarship gives free tuition to the incumbent, who is expected to devote himself exclusively to advanced study.

These scholarships are awarded by the Graduate Faculty, on recommendation of the heads of departments concerned, at or before the beginning of the year in which they are to be conferred. Applications must be made to the President on or before May 1 of the preceding year.

TUITION

The tuition fee for the whole course for the degree of Master of Arts, or Master of Science, is *one hundred dollars*, of which *fifty dollars* is payable in advance. A registration fee of five dollars is required of all students registering at Tufts College for the first time.

THE CRANE
THEOLOGICAL SCHOOL

Faculty of the Crane Theological School*

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

LEE S. MCCOLLESTER, S.T.D., DEAN

Packard Professor of Christian Theology

CHARLES H. LEONARD, A.M., D.D., LL.D., DEAN, EMERITUS

Goddard Professor of Homiletics and Pastoral Theology

WILLIAM H. REED, A.M., SECRETARY †

GEORGE M. HARMON, A.M., D.D.

Professor of Biblical Theology, Emeritus

WILLIAM G. TOUSEY, A.M., S.T.D.

Professor of Ethics and the Philosophy of Theism

HENRY I. CUSHMAN, A.M., D.D.

Instructor in Homiletics and Pastoral Care

HINCKLEY G. MITCHELL, D.D.

Professor of Hebrew and Old Testament Exegesis

CLARENCE R. SKINNER, A.M.

Woodbridge Professor of Applied Christianity

EDWIN C. BOLLES, A.M., PH.D., D.D., LL.D.

Dickson Professor of English and American History

RICHARD JONES, PH.D.

Professor of English Literature

ALFRED C. LANE, A.M., PH.D.

Pearson Professor of Geology and Mineralogy

HERBERT V. NEAL, PH.D.

Professor of Zoology

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

FRANK G. WREN, A.M.

Walker Professor of Mathematics

*Below the line are printed the names of professors who, while not members of the Theological Faculty, offer subjects that are open to students of the School.

†*Ex officio*, as Secretary of the Department of Arts and Sciences.

KARL SCHMIDT, PH.D.

Professor of Philosophy

ALBERT H. GILMER, A.M.

Assistant Professor of English

ARTHUR I. ANDREWS, PH.D.

Professor of History

WILLIAM FRANK WYATT, A.M.

Instructor in Greek

LOUIS RAYMOND BURNETT, M.D.

Instructor in Physical Education for men

COMMITTEE ON PROMOTIONS

Dean McColleston, *Chairman*; Professors Tousey and Skinner.

COMMITTEE ON CURRICULUM

Dean McColleston, *Chairman*; Professors Tousey, Cushman and Skinner.

NON-RESIDENT LECTURERS

FREDERICK A. BISBEE, D.D.

JAMES H. HOLDEN, A.M.

HAROLD MARSHALL

JOSEPH K. MASON, D.D.

FREDERIC W. PERKINS, S.T.D.

The Crane Theological School

The Relation of the School to Tufts College

Crane Theological School is one of the coördinate departments of Tufts College. Students of the School are members of the College, enjoying its privileges and subject to its regulations. At an early period in the history of Tufts College it was provided by the will of Mr. Packard that a professor of Christian Theology should be maintained from the income of funds bequeathed by him. The Rev. Thomas J. Sawyer, D.D., was elected Packard professor in 1869. This was the beginning of the Theological School. In 1882 the school had developed so that its Faculty received a definite organization, and Dr. Sawyer became the first Dean, retaining the office until his retirement as Packard Professor Emeritus in 1892. He was succeeded by Rev. Dr. Charles H. Leonard who retired in 1910. From the erection of West Hall until the completion of the separate buildings of the School, the western side of West Hall was occupied by the Divinity School. In 1892, by the gift of ex-President Miner, the School was provided with Miner Hall, containing the library, class rooms, chapel, and reception room; and at the same time, largely through the efforts of the Dean, the money was obtained to build Paige Hall, a dormitory for students of the Theological School.

In 1906 the name of the Divinity School was changed to the Crane Theological School, in recognition of a gift of one hundred thousand dollars from the estate of the late Thomas Crane of New York, whose son, Albert Crane, '63, thus carried out the expressed purpose of his father.

In 1912 Lee S. McCollester, D.D., of Detroit, Michigan, was called to the office of Dean of Crane Theological School.

The New Plans for Crane

Recognizing that peculiar difficulties and radically new demands confront the Christian minister to-day, Crane Theological School frankly seeks to adapt its discipline to the new conditions. This, quite naturally, has led to the adoption of a distinct and somewhat distinctive ideal or aim. While rigorously faithful to the fundamentals of a liberal culture, and alert to discover and foster special interests and gifts, the primary aim will be *practical* rather than *academic*—to turn out, not men distinguished for varied and curious learning, but men thoroughly informed as to the problems of the hour, in sympathetic touch with modern needs, trained and equipped for moral and religious leadership in the seething life about us.

For the present, emphasis will be laid on three courses, which, for convenience, may be designated the Graduate B.D. course, and the Undergraduate B.D. course, and the combined A.B. and B.D. courses.

The Graduate course is the traditional three years' course for men who have received regular collegiate training—reorganized in some degree, however, as respects subjects, but more especially as respects the distribution of emphasis. In the case of students of unusual attainments, it may be possible to take the A.M. degree along with the B.D. degree. While Hebrew or Greek is in general advised, it is possible to substitute for these, a modern language, or a subject in either philosophy, literature, or economics. In the last year, the student may be allowed to do part of his work in a parish or social settlement, but under the direction of the Faculty, and dependent upon especial excellence in his previous work. For graduation there is required a credit of 100 hours, 60 of which must be of the grade of C, or better. The subjects for each year are to be selected from the following lists.

SYNOPSIS OF THE THREE YEAR COURSE

First Year

Greek or Hebrew.

Old Testament. Introductory—History and Literature.

New Testament. Life of Jesus and the History of Apostolic Christianity.

Church History. From the beginning of Christian Church to the Reformation.

Homiletics. English Composition; History of Preaching; Study of Masterpieces of Pulpit Eloquence; Readings in Religious Literature.

Religious Psychology. Personal Influence; Mental Hygiene; Intellectual Efficiency; Religious Phenomena.

Sociology. Theories; Economics; Practical Work in Social Centers.

Religious Pedagogy. Sunday School Methods; Child Study; Religious and Moral Education.

Logic. Deduction; Induction; Method; Argumentation.

Practical Ministry. Problems of Modern Church; Universalist History and Theology.

Second Year

Greek, Hebrew, or German.

History of Religious Thought in Europe. Reformation and History of Protestantism.

Old Testament. Study of Special Books for Literary and Ethical Values.

New Testament. Study of Special Books for Ethical and Theological Values.

Ethics. Philosophical; the Moral Nature; Springs of Conduct; the Moral Ideal; Ethical Theory and the Moral Life.

Social Psychology.

Comparative Religions. Ideas and Work of various Eastern Religions. Comparison with Christianity.

Practical Ministry. History of Modern Sects; The Modern Universalist Church; Laws and Conventions.

Homiletics.

Third Year

Applied Christianity. History and Development; Social Service; the Church in Modern Society.

Religious Movements in Europe and America.

The Philosophy of Religion. Elements; the Final Problem; Evidence of a Rational and a Moral Order; Theism and Anti-Theistic Theories.

The Bible and Modern Life.

Practical Ministry. Laboratory work in a Parish or Social Settlement; Study of Architecture; Church Music and Hymnology; Scientific Management Applied to Church Work.

Homiletics. Preaching; Liturgics and Worship; Oratory; Sermons; Poetry and Essay for Enrichment of Preacher's Thought.

Systematic Theology. Ideas and Problems of Christian Theology; Types of Christian faith; Christ and the Church.

The Universalist Church. History and Doctrines.

Research Work in Sociology or Economics. This is carried on at Social Settlements under the direction of professors.

Electives.

SYNOPSIS OF THE FIVE YEAR COURSE

This course is designed to meet the needs of capable and earnest men who aspire to the Christian ministry, but whose circumstances forbid their taking the Graduate B.D. course, requiring, as it does, four years of preliminary college training. It admits of the introduction of studies not strictly professional, but of fundamental character and of high cultural and disciplinary value for the minister. The conditions of admission to this course are the same as for the School of Liberal Arts. The expectation is that five years spent under a single faculty, with a clearly defined objective, where subjects are made to succeed each other in logical order, and with persistent reference to practical requirements, will afford a very effective equipment for the working preacher and pastor. This course, it is anticipated, will justify itself by the severe intellectual training it compels, and by the fact that it gives practically the equivalent of the six-year combined A.B. and B.D. course,—with the advantage that from the outset it lays emphasis on the religious purpose of the whole course. A further aim of this arrangement is more deeply to impress the student with the special qualifications the profession calls

for in personality and equipment, and to permit the Faculty earlier to determine his fitness for his exacting duties as an efficient religious leader. Students who give small promise of efficiency will early be advised to enter work for which they are better fitted. Students of high standing and sufficient maturity will be permitted to devote the last year of the course to practical work in social settlement or parish, either as assistant or pastor. This work will be under the supervision of the Faculty. Students will be required to report at stated intervals, present theses on assigned subjects, and may at all times avail themselves of the counsel and sympathetic support of the Faculty. For graduation in this course a student must have a credit of 140 term hours for the four years in residence, and 70 of these must be of the grade of C, or better. The subjects are to be selected from the following lists.

First Year

English. English 1 and 2; Literature and Composition.

Science. Biology; Organic Evolution; Anthropology; Physiology.

Old Testament. General Survey of Old Testament; Literature and History.

New Testament. Life and Teachings of Jesus.

The Rise and Development of The Early Christian Church.

One Language. Modern or Ancient.

Logic. Deduction; Induction; Method; Argumentation.

History. General Medieval; History 1: History of the New East.

The Modern Liberal Church Movements.

Readings in Religious Literature.

Second Year

English. History of Religious Literature; the English Bible and General Literature; Sermonic Composition.

Old Testament. Study of Special Books in Relation to Jewish History and Ethics.

New Testament. Theology of Paul. New Testament as Literature and Ethics.

Ethics. Philosophical; The Moral Nature; Springs of Conduct; the Moral Ideal; Ethical Theory and the Moral Life.

History of the Christian Church. European; Catholic and Protestant.

Religious Pedagogy. Sunday School Methods; Child Study; Religious and Moral Education.

Psychology. Elementary and Applied; Psychology of Religion.

Study of Devotional Literature.

European Liberal Religious Movements.

Third Year

Economics. The Principles of Economics; Their Applications to the Church and Social Life.

Comparative Religion. Ethnic Religions; History; Doctrines; Religion of Greece, and Relation to Christianity.

Homiletics. Oratory; Preaching; Study of Local Preachers; Current Religious Literature; Sermon Making; Psychology of Preaching.

Practical Ministry. Study of City Churches; Study of Rural Churches; Work in Connection with Neighboring Churches; Laboratory or Practical.

The English Bible. The English Bible studied as Literature; Its Drama, Poetry, etc.

Old Testament Ethics. Studies of men and epochs of history.

New Testament Doctrines. Teachings of Jesus and Paul.

History of Philosophy. Leading Questions; Development of Thought as Respects Fundamental Issues.

Systematic Theology. The Essential Affirmations of Christian Faith—Their Origin and Evolution.

Fourth Year

Sociology. Development of Society; Modern Theories of Sociology; Laboratory Work in Settlements, Christian Churches and Social Service.

Applied Christianity. Christian Ethics; Modern Problems; Church as a Social Instrument; Church in Economic Relations; The Teachings of Jesus and Modern Society.

Philosophy of Religion. Elements; The Final Problem; Evidence of a Rational and a Moral Order; Theism and Anti-Theistic Theories.

Modern Sects and Doctrines. Church Unity; Leading Missionary Movements and Men.

Practical Ministry. Organization of Church Work; Minister's Personal Life; Church Music; Church Architecture; Hymnology and Liturgics; Scientific Management Applied to Churches.

Homiletics. Sermon, Composition and Delivery; Lecture Writing; Press Writing; Study of Local Preachers and Lecturers.

Literature. Bible in Modern Life; Poetry and Essay for Enrichment of Preacher's Thought.

Universalist Church. Policy; Theology; and Opportunity.

Fifth Year

The work of the fifth year will vary according to the needs of the candidate and his ability shown in previous years. It is, however, planned that some of his work shall be done at a social settlement or in a parish under the direction of a minister who will carry out the desires of the College in the further work of the student. During this year the student will follow lines of study prescribed by the Faculty and prepare theses on subjects connected with his year's work. Examinations may be required, and it may be best for the student to come to the College for some of his work. The Faculty will aid the student in the problems that rise in connection with his work. It may be possible that some students will prefer to use this year in residence at the School for work in connection with the College, looking forward to the degree of A.B. Special attention during this year will be given to parish problems and administration.

THE COMBINED A.B. AND B.D. COURSE

The program of this six-year course is a new departure in theological education. It gives the student in the very first year, a comprehensive view of the modern ministry. It places before him at the beginning the ultimate objective, and then, as the years pass, it combines subjects in a natural order so as to sustain interest, increase mental discipline, and enrich the store of religious materials. It is an elective system where the

choice of electives is determined by the Faculty and where all work is chosen in reference to the needs of the individual and the equipment desired.

The details of the program are not given, but the following synopsis of requirements will indicate the general scope of the course.

SYNOPSIS FOR THE REQUIREMENTS FOR A.B. AND B.D.

	Term Hours
Languages (Greek, Hebrew, Latin, German, French: each student to take three)	18
Science (Mathematics, Physics, Biology)	18
History (Civil and Religious; Ancient and Modern)	18
Bible (O. T. and N. T., Bible as English Literature)	21
Philosophy (Psychology, Logic, Ethics, Systematic Theology, etc., Religious Psychology)	24
Sociology (Economics, Applied Christianity, Social Laboratory, Pedagogy, Missions)	21
English (Rhetoric, Literature, Oratory, Homiletics, Study of Religious Literature, Devotional Literature)	36
Physical Education	2
Electives	24
A total of	182

SPECIAL STUDENTS

On account of the working program with Tufts College, it is possible to give ministers and students courses in special subjects covering a period of a year or more.

Departments of Instruction

58 OLD TESTAMENT

The constant aim in this department will be to give the student such a knowledge of the Hebrew Scriptures as will enable him personally to appreciate their varied excellence and utilize them as a source of inspiration and instruction in his ministry. The first step in this direction is the acquisition of a working knowledge of the Hebrew language; the second a thorough course in exegesis. Those who take these courses will be able to study with profit such general subjects as Introduction to the Old Testament, History of the Hebrews, and Ethics, or Theology of the Old Testament, as they are offered.

SUBJECTS

3. The Hebrew Language. First Semester: the elements of Hebrew etymology, with exercises in reading and writing Hebrew. Second Semester; readings from the books of Judges and Samuel, with notes and references on Hebrew syntax.

[6. The Narrative Literature. A comparative study of the historical books to determine their relative value from the literary, historical, and religious standpoint. *Two hours*]

[7. The Prophetic Literature. An examination of selections from the works of the principal prophets, to ascertain the literary and doctrinal peculiarities of each, and his place in the development of Hebrew prophecy. *Two hours.*]

8. The Didactic Literature. The books of Job, Proverbs, and Ecclesiastes, and their significance for the history of Hebrew thought. (F)

9. The Lyric Literature. Early songs; select psalms of devotional or theological importance; the Song of Solomon and its structure and meaning.

[10. The Ethics of the Old Testament. A survey of the development of moral ideas among the Hebrews, with lectures and papers. *One hour.*]

11. Introduction to the Old Testament. An inquiry into the age, structure, authorship, and history of the several books, with lectures and papers.

68 NEW TESTAMENT

This department has three divisions : History, Criticism, and Exegesis ; and for students who have not had Greek, a course in New Testament Greek is provided. The historical course covers the two centuries preceding the ministry of Jesus, with the aim to give the student a knowledge of the conditions under which Christianity entered the life of the world, the ministry of Jesus, and the rise and development of the Apostolic Church. The method pursued in this study is to refer the student to authorities dealing with the topics assigned and notes given by the instructor. In Criticism the student deals with the sources of the text and the methods for determining its correctness, also with the facts of the different New Testament writings. In this the method pursued is the same as in the study of the history. In Exegesis the work is of reading selected passages from the Greek of the Synoptic Gospels, the Fourth Gospel and the Pauline Epistles. The instructor gives the student from time to time notes as to the principles of exegesis, requiring him to exemplify them in his work. He is also taught the discriminating use of commentaries with the aim to form the habit of independent and correct interpretation. In New Testament 4 the subject taught is the application of essential teachings of the New Testament to the conditions and needs of our modern social and individual life ; and the method pursued is to assume the results of exegesis, divest them of their local and temporal elements, arriving at what is permanent, and endeavor to find their parallels in the life of to-day. The aim is to furnish the student with topics and material for sermon work, and to equip him for biblical preaching.

SUBJECTS

11. History of the Beginnings of Christianity: Life of Jesus.
2. New Testament Criticism.
3. New Testament Exegesis and Theology.
4. New Testament Greek.
5. New Testament Ethics.

56 HISTORY OF RELIGIONS

The department of History of Religions deals with a special phase of the general subject of history, showing the growth of religion, and its relation to civilization—including politics, social life, philosophy, literature, art, and personal character. See also the subjects listed in the departments of Old Testament and New Testament.

SUBJECTS

4. (a) History of Religions. This course seeks to give an outline of the origin and development of religion from the tribal cults of primitive races to the great ethnic religions, excluding Christianity. It will deal with the evolution from the primitive stages of social life and culture to the higher forms of religious organization, as shown among the Hebrews, the Chinese, the Japanese and the Egyptians. It will present the religions of the Semites in their various groups. It will outline the religion of the Greeks, Romans and Persians, and the systems of India, both ancient and modern. The purpose will be to present a comparative view of the social-religious development of the world prior to the advent of Christianity. Lectures, thesis and outlines of reading.

(b) Special courses can be specially arranged on the History, Literature and Philosophy of Confucianism, or Buddhism, or Mohamedenism, or other Eastern systems, and on the Philosophy and Mythology of Greece and Rome.

5. History of the Christian Church to the Protestant Reformation. The rise and expansion of Christianity and its relation to historical, social and intellectual movements. Early persecutions and contact with Heathenism. The social dynamic of Christ's teaching. Development of theology in the Church Fathers. Rise of the Hierarchy. Power of the Popes. Missionary expansion. Holy Roman Empire. Scholasticism. Decline of Papacy. Rise of Humanism.

6. History of the Christian Church from the Reformation to the present day. Rise of individualism and nationality. The Protestant Reformation in Hungary, Germany, Switzerland, England and France. The rise and development of modern sects, with a study of religious growth in America.

7. Special Investigations. A special research course into the literature of particular periods in church history.

16 ETHICS AND PHILOSOPHY OF THEISM

The several courses in Ethics and the Philosophy of Theism offered by the School of Liberal Arts are open to theological students, and are included in the curriculum of the Theological School. For detailed statement of subjects, see Philosophy 3, 6, 7, 55. and 15 in the statement of that department in the School of Liberal Arts.

86 THEOLOGY

The purpose is, primarily, to assist the student to think independently on theological subjects, and to abide in the consequences. In pursuing this purpose, attempt is made to co-ordinate the products of biblical theology, religious history, natural theology, ethics, and, indeed, of all the proper sources of material, and thus to produce a scientific theology. It is believed that such a system will deserve and receive the student's confidence, and will enlist his energies.

The method includes several stages :—

1. The history of important doctrines and creeds, as a general introduction.
2. *a.* Special history of the topic in hand, with analysis and classification of opinions and theories according to their logical relations.
- b.* The collection of the facts, so far as given in the present state of knowledge, and the criticism of the theories on the basis of the facts.
- c.* The organization of the results into a scientific product.
- d.* Illustrative applications to practical problems,—ecclesiastical, political, social, and personal.

SUBJECTS

1. [Historical Introduction to the general subject of Theology.]
2. Systematic Theology ; modern conclusions.
3. The Philosophy and History of Universalism : Unitarianism. Unitarianism and Congregationalism ; Origen, Murray, Ballou.

76 APPLIED CHRISTIANITY

Christianity will be considered with special reference to the practical problems of life, individual and social, under the three general aspects of religious education, religious expansion and social regeneration. The subjects considered will deal with the religious view of every aspect of modern society.

SUBJECTS

5. Religious Pedagogy. The whole problem of religious education is reviewed, and its fundamental importance for the community is emphasized. Church, school methods, organization, curriculum, management, and efficiency are studied theoretically and are given practical demonstration.

6. Applied religious Psychology. The student is grounded in the psychology of the religious life. Various phases of normal and abnormal experience are studied and types of Christian character are analyzed. The validity of religious experience is stressed.

7. Social Psychology. A study of the self as a social product, an analysis of group and race characteristics, and of social conduct.

8. Principles and methods of Social Service. A course preparing the student for practical community leadership. The most important phases of social development are studied in their relation to economic and spiritual forces. Various welfare institutions are visited with the instructor, brief comments are written upon each visitation, and each student performs specific service under direction.

10. Home and Foreign Missions. A history of the spread of Christianity throughout the world, with emphasis on modern conditions. The aim is to make the student sympathetic with the motives and movements of missions and cognizant of methods.

11. Seminar in Country Church Problems. The country church and its ministry, in relation to the new rural development.

HOMILETICS AND PASTORAL CARE

The work in Homiletics is conducted with the sincere conviction that there can be no substitute for Christian preaching in the modern church. A sane pulpit can never wane in its power. The courses in Homiletics cover two years, and students in these catalogue courses are ranked according to the regulations of the college. But the conferences between the instructor and each student by himself constitute an important

feature in the work of this department. In these conferences the personality of each student is recognized and the attempt is made to direct his development along the lines of greatest efficiency. The half-year spent on the subject of pastoral care is practically a course in the psychology of the pastorate.

SUBJECTS

1. Introductory Course in Homiletics. (a) Lectures and Recitations on the basis of text book, Hoyt's "The work of Preaching." *One hour.* (F) (b) Sermon Making. Short extempore and written sermons on texts or topics chosen by students or assigned by the instructor. *One hour.* (c) Cultural study of the words and life of Christ as fundamental preparation for preaching. *One hour.* (d) Conferences.

2. Advanced course in Homiletics. (a) Lectures and Recitations on the basis of text book, Hoyt's "The Preacher." *One hour.* (F) (b) The art of preaching. Practice in the making of sermons, and in their delivery in class. *One hour.* (c) Pastoral Care. Studies in the conduct of Public Worship, and of special services on the basis of Dean Leonard's Book of Prayer. Baptism, Confirmation, the Holy Communion, Marriages and Funerals will be considered; also, Parish Calls and other pastoral functions with Gladden's "The Christian Pastor" as a book of reference. *One hour.* (s) (d) Conferences.

THE PROFESSION OF THE MINISTRY

Lectures on ministerial habits; scientific management of parishes; quiz classes; case work; reading courses; church architecture; Universalist polity; Interdenominational relations.

Supplementary Information

[See also the section devoted to General Information.]

RELIGIOUS OBSERVANCES

The students in the Crane Theological School attend daily morning prayer in Goddard Chapel; and religious services, in the care of the students, are held in Packard Hall from time to time.

SUPPLEMENTARY LECTURES

Lectures which bear upon the general work of the Christian ministry, and upon special subjects of study, are given at intervals throughout the year by well-known clergymen and others of the vicinity.

The most noted divines of New England officiate every Sunday within easy distance, and may be studied by the student in respect to their teachings and their methods. It is the policy of the School to encourage the judicious use of these important instrumentalities of culture.

LICENSE TO PREACH

The regular time for applying for licensure is a year and a half before graduation. Before that time the members of the Theological School are not allowed to preach.

BUILDINGS FOR THE USE OF THE THEOLOGICAL SCHOOL

The building formerly known as Middle Hall has been entirely remodelled and fitted for the use of the Theological School under the name of Packard Hall. It contains five well-lighted lecture rooms, a chapel, a library, and offices for the members of the Faculty.

Paige Hall, the dormitory of the Theological School, contains thirty-six single rooms, heated by steam and lighted by gas and electricity. Each room is provided with all necessary furniture — except sheets, blankets, pillow-cases, and towels.

EXPENSES AND PECUNIARY AID

The charge for instruction in the Theological School is one hundred dollars per annum. This charge includes the privilege of occupying a room in Paige Hall, and provision for heating and caring for it.

A registration fee is required of all students entering Tufts College for the first time.

The following scholarships are assigned exclusively to theological students; certain prizes are also available under conditions, especially as described under "General Information."

The General Convention of Universalists aids students by free scholarships, not exceeding one hundred and twenty-five dollars a year to any one student, subject always to the recommendation of the Faculty of the Theological School. Those students, also, who are in the regular course are permitted to preach, under the direction of the Faculty, during the year-and-a-half preceding their graduation. In this way they may add to their pecuniary resources.

THE GREENWOOD SCHOLARSHIP.—The income of one thousand dollars, bequeathed by the late Mrs. Eliza M. Greenwood, of Malden, is given to that member of the advanced class in Homiletics who, maintaining a high standard of work as a student, has made in all the work in Homiletics and Oratory the most satisfactory progress.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.—The income of two thousand dollars, bequeathed by the late John M. Sprague, is appropriated to the aid of needy and deserving students in the Crane Theological School, preference being given to any student, otherwise eligible, who is a direct descendant of the donor's father, John Sprague.

THE DOCKSTADER SCHOLARSHIP.—The income of ten thousand dollars, given by George A. Dockstader, of New York, is appropriated to the aid of needy and worthy students.

The following scholarships amount to fifty dollars each:—

THE WHITTEN SCHOLARSHIP.—Founded by Mrs. Maria F. Whitten, of Cambridge.

THE HOLT SCHOLARSHIP.—Founded by Miss Celia Holt, of Stafford, Conn.

THE HENRY L. BALLOU SCHOLARSHIP.—Founded by Susan Ballou, of Woonsocket, R. I.

TWO BRADLEE SCHOLARSHIPS.—Founded by the late Caleb D. Bradlee, D.D., of Brookline.

TWO GOLDTHWAITE SCHOLARSHIPS.—Founded by the late Willard Goldthwaite, of Salem.

THE SARAH ELIZABETH PERKINS SCHOLARSHIP.—Founded by James D. Perkins, of Brooklyn, N. Y.

TWO LUCIUS R. PAIGE SCHOLARSHIPS.—Founded by the late Lucius R. Paige, D.D., of Cambridge, Mass.

TWO ANN M. PAIGE SCHOLARSHIPS.—Founded by the late Ann M. Paige, wife of the late Rev. Lucius R. Paige, of Cambridge, Mass.

FOUR CATHERINE CONANT SCHOLARSHIPS.—Founded by the late Mrs. Catherine Conant, of Newark, N. J.

The income of five hundred dollars, given by REV. JOHN VANNEVAR, is used in the purchase of books for the Department of Homiletics.

JACKSON COLLEGE

Faculty of Jackson College

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

CAROLINE STODDER DAVIES, A.M., DEAN

Professor of English

WILLIAM H. REED, A.M., SECRETARY

Professor of Modern Languages

MARY CALDWELL MURRAY

Instructor in Physical Education

EMMA JULIA WAGNER, M.D.

Medical Examiner

The instructing staff is identical with that of the School of Liberal Arts of Tufts College, except in the Department of Physical Education.

Standing Committees

ADMISSIONS: Dean Davies, *Chairman*; Professors Wren and Reed.

ABSENCES AND PETITIONS: Dean Davies, *Chairman*; Professor Reed.

SCHOLARSHIPS AND AIDS: President Bumpus, *Chairman*; Dean Davies, Professors Wren, Anthony, McColester, and Reed.

CATALOGUE: President Bumpus, *Chairman*; Dean Davies, Professor Denison.

STUDENT EMPLOYMENT: Dean Davies, *Chairman*; Professor Gilmer.

PROMOTIONS: Dean Davies, *Chairman*; Professors Wren, Fay, Metcalf, and Marvin.

STUDENT ORGANIZATIONS: Dean Davies, *Chairman*; Professors Fay and Gilmer.

Jackson College

Unlike most of the women's colleges affiliated with colleges for men, Jackson College is the result, not of a slow growth whose beginnings were almost imperceptible, but of a metamorphosis which seemed to ignore all precedents.

Jackson College for Women was authorized by act of the Legislature of Massachusetts in 1910, and was opened on September 22nd of the same year. It is a further step in the development of the work of Tufts College in providing for the collegiate education of women. The beginning was made when Tufts opened all its courses to women on the same terms as to men in 1893. Sixteen years of experience seemed to show that it was possible to do still better work for women than was being done under a system of co-education. In 1907 the annual report of the President of Tufts College called the attention of the Trustees to what he considered the failure of the co-educational experiment at Tufts. Two years later a committee was appointed by the Trustees to investigate and report upon the matter of co-education in Tufts College. After careful discussion this report was accepted at a meeting of the Trustees, April 14, 1910, and application was made to the Legislature for the necessary charter amendments. As a department of Tufts College, Jackson College is therefore able to offer to its students a combination of the advantages of a woman's college and a co-educational college with comparative freedom from the peculiar disadvantages of each system.

The courses offered in Jackson College are identical with those offered in the School of Liberal Arts; and are given by the same instructing staff.

The requirements for the degrees of A.B. or B.S. are the same as in Tufts College. The diploma is certified over the signature of the President and Secretary of the Trustees of Tufts College as similar and equal to that issued under like name and upon similar conditions to the students of Tufts College.

GRADUATE WORK

No graduate courses are offered in Jackson College, but women are admitted to the Graduate School of Tufts College.

EXPENSES

The tuition charges and incidental expenses are the same as in Tufts College. Room rent varies from \$40 to \$85, according to the location of rooms.

REGISTRATION, REGULATIONS, ETC.

Full information concerning the administration and organization of Jackson College will be found in a special pamphlet to be had on application to the Dean of Jackson College, Tufts College, Mass.

SCHOLARSHIPS

In addition to the Scholarships named below, a certain proportion of the Scholarship funds of Tufts College has been set apart for the students of Jackson College. The conditions and form of application are the same.

FIVE JOHN AND LUCY H. STOWE SCHOLARSHIPS.—Five scholarships for women students, founded by the late Mrs. Lucy H. Stowe of Lawrence.

TWO MARY AND LUTHER GILBERT SCHOLARSHIPS.—Founded by Mrs. Mary G. Knight, of Roxbury, for the benefit of women.

THE CHARLES A. AND CORNELIA B. SKINNER SCHOLARSHIP.—Founded by the late Rev. Charles A. Skinner, D.D., and Mrs. Cornelia B. Skinner, of Cambridge, Mass.

ALPHA OMICRON PI PRIZE SCHOLARSHIP.—Founded by the Alumnae of the Tufts Chapter of Alpha Omicron Pi, and given to that woman in the senior class who shall have made the best record in the prescribed work of the A. B. Course.

ALPHA XI DELTA PRIZE SCHOLARSHIP.—Founded in 1910 by the Lambda Chapter and Alumnae of Alpha Xi Delta and given annually to that senior who, at the end of the Junior year shall have maintained the highest excellence in a course of study broadly and wisely chosen.

CHI OMEGA PRIZE SCHOLARSHIP.—Founded in 1913 by the Alumnae of the Chi Alpha Chapter of Tufts College, to be given annually to a student of Jackson College who at the end of her Junior year has attained commendable scholarship in Economics and Sociology and has shown a keen interest in Social Service. The purpose of this scholarship is to encourage practical work during her Senior year.

BOSTON ALUMNÆ CHAPTER OF SIGMA KAPPA SCHOLARSHIP.—Founded in 1914 by Boston Alumnæ Chapter of Sigma Kappa, representing Boston University and Jackson College, available at Boston University on the even year, beginning 1914, and at Jackson College on the odd year, to be given to a sorority or non-sorority girl, worthy in character and scholarship, who is struggling to meet the expenses of a college education.

LOANS AND AIDS

The Woman's Universalist Missionary Society of Massachusetts maintains for the use of students of Jackson College a fund, the interest of which shall be used for scholarships for Universalist young women. These scholarships of \$100 value it is hoped the beneficiary will, when able, return to the "Tufts College Fund for Women" for the benefit of another young woman.

The Hettie Lang Shuman Memorial Fund was founded by Mr. A. Shuman, who presented one thousand dollars to the College, in memory of his wife. The interest of this fund is annually expended in aiding deserving women students.

The Massachusetts Society for the University Education of Women has at its disposal a small loan fund, and also a limited amount of money devoted to scholarship purposes for regular students in the upper classes. Inquiries concerning both of these may be made of the Dean.

BUILDINGS

Miner Hall contains the office of the Dean, class rooms, reception and locker rooms, bookstore, etc.

The Library and laboratories are used in common with Tufts College.

The daily chapel service is held in Goddard Chapel at 8.30.

Dormitory accommodations are provided for women in Metcalf Hall, Start House, and Richardson House.

Students of Jackson College are required to reside in the dormitories or with their families, except by special permission of the Dean.

THE MEDICAL SCHOOL

Faculty of the Medical School*

HERMON CAREY BUMPUS, PH.D., Sc.D., LL.D.

PRESIDENT

Tufts College

CHARLES FAIRBANK PAINTER, A.B., M.D. . 372 Marlborough St.

Professor of Orthopedic Surgery and Dean

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*Professor of the Theory and Practice of Medicine and Dean of the
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*Professor of Materia Medica and Therapeutics and N. Abington
Vice-Dean*

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*Assistant Professor of Materia Medica and Therapeutics and
Secretary of the Faculty*

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Professor of Ophthalmology, Emeritus

EDWARD BINNEY LANE, A.B., M.D. 419 Boylston St.

Professor of Mental Diseases

EDWARD MARWICK PLUMMER, M.D. . 5 Adams St., Charlestown

Professor of Otology

GEORGE HAMLIN WASHBURN, A.B., M.D. . 377 Marlborough St.

Professor of Obstetrics, Emeritus

* The names of the Faculty of Medicine, after the President, the Dean, and the Secretary, are arranged in the order of academic seniority. The post-office address is Boston, Mass., unless otherwise indicated.

- JOHN JENKS THOMAS, A.M., M.D. 88 Bay State Road
Professor of Neurology
- JOHN LINCOLN AMES, A.B., M.D. 87 Chestnut St.
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- WILLIAM ELISHA CHENERY, A.B., M.D. . . 222 Huntington Ave.
Professor of Laryngology
- CHARLES MELVILLE WHITNEY, M.D. . 386 Commonwealth Ave.
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- FRANCIS JOSEPH KEANY, M.D. 73 Marlborough St.
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*Professor of Histology and Instructor in Biology in
Pre-Medical Course*
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- WILLIAM ROBIE PATTEN EMERSON, A.B., M.D. 657 Boylston St.
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Assistant Professor of the Theory and Practice of Medicine
- ARTHUR LAMBERT CHUTE, M.D. 350 Marlborough St.
Assistant Professor of Genito-Urinary Surgery
- LEO VICTOR FRIEDMAN, A.B., M.D. . . . 425 Marlborough St.
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- TIMOTHY LEARY, A.M., M.D. . . . 44 Burroughs St., Jamaica Plain
Professor of Pathology, Bacteriology and Medical Jurisprudence
- STEPHEN RUSHMORE, A.B., M.D. 520 Beacon St.
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- ALFRED WILLIAM BALCH, Ph.G., M.D. . 44 Linden St., Brookline
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- HARRY HOMER GERMAIN, M.D. 416 Marlborough St.
Assistant Professor of Anatomy
- ELWOOD TRACY EASTON, M.D. 209 Newbury St.
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- ALLEN GREENWOOD, M.D. 101 Newbury St.
Associate Professor of Ophthalmology
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Assistant Professor of Roentgenology

OTHER INSTRUCTORS

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Assistant in Clinical Medicine Mattapan
- EDWARD MARTIN, M.D. 217 Warren St., Roxbury
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- JAMES ALEXANDER MACKENZIE, M.D. 117 Berkeley St.
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- FRANK EDWARD WHEATLEY, M.D. N. Abington
Assistant in Physiology
- ABRAHAM ISIDORE SHAIN, A.B., M.D. . 147 Harold St., Roxbury
Clinical Assistant in the Theory and Practice of Medicine

OTHER OFFICERS

- EDMUND WILBUR KELLOGG 24 Milk St., Boston
Assistant Treasurer
- EUGENE EVERETT SHEPARD . . . 43 Boston Ave., W. Medford
Bursar
- LINA A. MAYO Milton
Stenographer
- LILLIAN M. TATTAN Somerville
Clerk to Secretary

STANDING COMMITTEES OF THE MEDICAL SCHOOL

The Dean and the Secretary are members of all standing committees, *ex officiis*.

ADMINISTRATION.—The President, Drs. Wheatley, Conant and Leary.

COURSE OF INSTRUCTION.—The President, Drs. Ames, Conant, Friedman, Wheatley, Chenery, and Bates.

WOMEN'S ADVISORY COMMITTEE.—Drs. Elizabeth A. Riley, Olga Cushing-Leary, and Edna Weil-Dreyfus.

LABORATORY ASSISTANTS

Anatomy

WILLIAM E. BROWNE, M.D.	Boston
ROY J. HEFFERNAN	Somerville
RICHARD B. LEITH	Greenfield
REGINALD D. MARGESON	Westwood
FREDERICK W. O'BRIEN	Arlington
ALBERT G. COFFEY	Nashua, N. H.

Physiology

ROBERT E. ANDREWS, M.D.	Cambridge
ROYAL K. JOSLIN	Providence, R. I.
JONATHAN P. HADFIELD	Providence, R. I.
MILLARD C. CLARK	Dublin, N. H.
FREDERICK W. MARONEY	Springfield

Tufts College Medical School

416 Huntington Avenue

Boston, Mass.

Tufts College Medical School was established in Boston in 1893. It is co-educational, women being admitted upon the same terms as men. In the session 1914-15, there are forty-six members of the Faculty and one hundred and seventeen other instructors, or one hundred and sixty-three in all. In the session 1914-15 there are seventeen clinics. The school was first located in rooms at 188 Boylston Street, where it remained three years, when an enrollment of one hundred and seventy-four students made larger quarters necessary. Temporary accommodations were procured for the session 1896-97 in the building formerly occupied by the Chauncy Hall School, while a building was in process of construction on Shawmut Avenue. This building was occupied in the session 1897-98, and it was believed that it would meet the School's needs for a number of years. At the end of three years this building was found to be inadequate to the constantly increasing number of students, and to the constantly increasing requirements of medical education. A new building was erected on Huntington Avenue, and was occupied in the session 1901-02. Increasing requirements having necessitated more commodious quarters, the building has been enlarged and remodeled at an expense of \$50,000. A fourth story has been added, and the building is now completely equipped with every facility for teaching Medicine in accordance with present requirements. There are six lecture rooms, the largest seating 400, the smallest seating 100. On the second, third, and fourth floors, extensive laboratories have been provided which give excellent facility for teaching Pathology, Bacteriology, Physiology, Histology, Chemical Pathology, Chemical Physiology, Neuropathology, Hematology and Pharmacology. Private research laboratories are connected with each general laboratory. The

building has been made complete in every respect. It is heated and ventilated throughout by both the direct and indirect system, and is lighted by electricity. The laboratories have been arranged to give the best natural light. The lecture rooms have been planned to combine modern seating arrangements with the best acoustic properties, and are equipped with opaque projection and lantern slide apparatus. The building is on the line of the Huntington Avenue Subway cars (except the Roxbury and Dorchester lines). All exercises are conducted at the school building in Boston and at the hospitals.

General Information

CLINICAL ADVANTAGES

Boston, as the largest city in New England, offers unusual facilities to the student of medicine. The amphitheatres of the Boston City Hospital, the Massachusetts General Hospital, and the Massachusetts Charitable Eye and Ear Infirmary are open to students, and opportunity is thus afforded for witnessing a great variety of surgical work.

Clinics are held at the Boston City Hospital, Boston Consumptive Hospital, Boston Dispensary, Boston State Hospital (Psychopathic Department), Carney Hospital, Free Home for Consumptives, Dispensary for Women, Massachusetts General Hospital, Massachusetts Charitable Eye and Ear Infirmary, Massachusetts School for Feeble Minded, Massachusetts State Sanatorium for Treatment of Tuberculosis, Mount Sinai Hospital, Robert Brigham Hospital, St. Elizabeth's Hospital, St. Mary's Infant Asylum, Tremont Dispensary, the Berkeley Dispensary, and at various private clinics.

SESSIONS OF THE SCHOOL

The annual course of lectures begins on the last Wednesday in September of each year, and continues thirty-six weeks until the second Wednesday in June.

VACATIONS

There are no exercises at the School during three days at Thanksgiving, two weeks at Christmas, and the week beginning April 5, 1915, nor upon legal holidays.

*OUTLINE OF THE COURSE

The course of study is a graded one, covering four annual sessions. In general the first two years consist of didactic and laboratory work; the last two years are chiefly clinical. During the latter part of the fourth year a certain latitude is allowed in the choice of elective subjects, but the course is otherwise uniform and the required subjects cover thoroughly the general ground of medicine, surgery, and the important special subjects.

For the first three years the school session is divided into two semesters of seventeen weeks each.

First Year

First Semester

Anatomy.—Lectures, recitations, demonstrations, and dissecting, *Thirty-five hours a week.*

Histology.—Lectures, recitations, demonstrations, and laboratory work. *Twelve hours a week.*

Second Semester

Applied Anatomy.—Lectures and demonstrations. *Two hours a week.*

Physiology.—Lectures, recitations, demonstrations, conferences, and laboratory work. *Twenty hours a week.*

Second Year

First Semester

Pathology.—Lectures, recitations, demonstrations, and laboratory work. *Twenty-five hours a week.*

*The Curriculum for the session 1914-15 will have many changes to conform to the proposed abandonment of concentration and extension of the studies of the first and second years.

Bacteriology.—Lectures, recitations, demonstrations, and laboratory work. *Five hours a week.*

Embryology.—Lectures, recitations, and laboratory work. *Three hours a week.*

Second Semester

Biological Chemistry.—Lectures, recitations, demonstrations, and laboratory work. *Seventeen hours a week.*

Materia Medica and Therapeutics.—Lectures, recitations, and laboratory work in Pharmacology. *Twelve hours a week.*

Toxicology.—Lectures, recitations, demonstrations, and laboratory work. *Three hours a week.**

Bandaging and Surgical Technique.—Lectures, demonstrations, and section exercises. *Twenty-four hours in all.*

The following subject is given throughout the school year :

Physical Diagnosis.—Lectures, demonstrations, recitations and section exercises. *Forty-eight hours in all.*

Third Year

The following subjects are given throughout the school year :

Theory and Practice.—Lectures, and recitations. *Three hours a week.*

Surgery.—Lectures and recitations (three hours), and two clinical lectures. *Five hours a week.*

Obstetrics.—Lectures, recitations, and demonstrations. (Attendance upon at least six cases of labor is required.) *Three hours a week.*

Diseases of Children.—One lecture at the school and one clinical lecture. *Two hours a week.*

Medical Diagnosis.—*Clinical lecture. *One hour a week.*

Ophthalmology.—*Twenty-four lectures.*

Laryngology.—*Twenty-four lectures.*

First Semester

Hygiene and Sanitation.—Lectures. *Two hours a week.*

Neurology.—One *clinical lecture a week.

Neuropathology.—*Sixteen lectures and eight hours of laboratory work.*

Second Semester

Hematology.—*Sixteen lectures and twenty-four hours of laboratory work.*

*Clinical lectures are given at the hospitals connected with the School.

Pulmonary Diseases and Climatology.—*One clinical lecture* a week.*

Gynecology.—Lectures and recitations. *Three hours a week.*

Genito-Urinary Diseases.—*Sixteen lectures.*

CLINICS

In addition to the above exercises, the students of the third year attend clinics, in sections, in the following subjects:—

Clinical Medicine;

Clinical Surgery;

Obstetrics (each student is required to take charge of at least six cases of childbirth);

Children's Diseases;

Pulmonary Diseases;

Ophthalmology;

Laryngology

The work in clinics averages *twelve hours a week for the year.*

Each student is required to serve one month as assistant at a clinic in the surgical department of an approved hospital.

Fourth Year

The work of the fourth year is required. It is essentially clinical and largely in sections. The work includes a continuation of the clinical work in the general subjects of medicine and surgery, and a grounding in the essentials of those specialties which have not been studied in the third year.

Required Subjects

Class Exercises

Clinical Medicine (including Pulmonary Diseases).—Lectures and conferences at the School (two hours), and clinical lectures (three hours). *Five hours a week, thirty weeks.*

Clinical Surgery.—Lectures and conferences at the School (two hours), and one clinical lecture and operations (two hours). *Four hours a week, thirty weeks.*

Orthopedic Surgery.—Lectures, recitations, and demonstrations. *Three hours a week, thirty weeks.*

*Clinical lectures are given at the hospitals connected with the School.

General Medicine.—Lectures and recitations. *Two hours a week, thirty weeks.*

Neurology.—One conference at the School and two clinical lectures each week. *Three hours a week, sixteen weeks.*

Psycho-Pathology.—Lectures. *Two hours a week (twelve weeks).*

Children's Diseases.—Lectures and conferences. *One hour a week, thirty weeks.*

Otology.—Clinical lectures. *Two hours a week (twelve weeks).*

Rectal Diseases.—Lectures. *One hour a week (twelve weeks).*

Operative Obstetrics.—*Eighteen hours.*

Electro-Therapeutics.—Lectures. *One hour a week (twelve weeks).*

Clinical Gynecology.—*Clinics (in small sections) (*twenty-five weeks*).
Conferences *once a week (thirteen weeks).*

Medical Jurisprudence.—Lectures and demonstrations. *One hour a week (twenty-five weeks).*

Dermatology.—*Clinical lectures. *Two hours a week (eighteen weeks).*

Operative Surgery and Surgical Anatomy.—This course is a sub-division of Clinical Surgery, and consists of lectures, demonstrations, and section work in operations on the cadaver. *Three hours a week (twelve weeks).*

Mental Diseases.—Lectures and clinical visits at hospitals for the insane. *Two hours a week (eighteen weeks).*

Genito-Urinary Diseases.—*Clinics in sections. (*Twenty-four hours—see below.*)

Clinical Work in Sections

Eighteen hours a week are assigned to clinical work in sections throughout the school year.

This work is given as far as possible in close relation to the instruction in each subject. Clinics are given in the following subjects:

Children's Diseases
Clinical Gynecology
Clinical Medicine
Clinical Surgery
Dermatology

Genito-Urinary Surgery
Laryngology
Neurology
Orthopedics
Otology

* Clinical lectures are given at the hospitals connected with the School.

Summary of Time

First Year	1100 hours
Second Year	1100 hours
Third Year	1050 hours
Fourth Year	1150 hours
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Total	4400 hours

EXAMINATIONS**1. For Entrance**

Examinations for admission to the pre-medical year may be taken in June at any of the places announced by the College Entrance Examination Board (for a list and application forms, address the Secretary of the Board, P. O. Sub-Station 84, New York N. Y.); or the examinations for admission may be taken at Tufts College, Mass., in September. For a schedule of the September examinations see pages 6 and 7, and for further details, page 275.

2. Promotion

The regular examinations for promotion and for graduation are held at the end of each course.

3. Fall Examinations

The fall examinations will commence Monday, September 7, 1915, at 10 o'clock A.M., at the Medical School Building, and are given for the following purposes:—

- (a) For students from other medical schools applying for advanced standing.
- (b) For removal of conditions.

Students intending to take the fall examinations (other than for entrance) are required to notify the Secretary on or before Saturday, August 28, 1915.

In all examinations (except those for entrance) each student must register by signing his name on the registration blank provided for the purpose. If a student fails to register in this manner he shall receive no credit for that examination.

Subjects of Instruction

First Year Subjects

ANATOMY

The course in anatomy is given throughout the first year. During the first half-year there are five lectures and three recitations weekly with the class. In the month of October, thirty hours additional are devoted to demonstrations in Osteology. There are also special demonstrations by the instructors in the difficult parts of the work. In the dissecting room each student is required to dissect three parts, to the satisfaction of the Demonstrator of Anatomy, before taking the final examination. It is necessary for every student to dissect three parts before graduation. Record of attendance and of the quality of the work done in the dissecting room will be kept, and will largely determine the standing of the student in the class.

During the second half-year there are two exercises each week, one hour for applied surgical anatomy and one hour for applied medical anatomy.

HISTOLOGY

The work in histology covers the first half of the school year, and is both didactic and practical. The practical work in the laboratory is emphasized. Here the student comes into the most intimate relation with the elements of the body, the legitimate objects of his study. He learns to use the microscope and to manipulate sections. Being required to draw what he sees, he forms a mental picture of the objects of study which he never forgets.

The department aims to bring before the student the latest utterance of the best authorities, and to present the subject from the standpoint of the medical student. It must be obvious that histology, dealing as it does with the tissue elements of

the body in their normal condition, is vitally important in the study of pathology, when it is understood that it is morbid changes in these elements which constitute pathological conditions. The student's future study of pathology is kept constantly in mind, and the teaching of the department has a direct bearing upon that end. The department is furnished with microscopes, the use of which, on payment of a small fee, will be afforded to such as are unable to furnish instruments of their own.

Written exercises and recitations will form a part of the course. Ninety hours of laboratory work are required.

EMBRYOLOGY

The subject of Embryology is given in the second half of the first year with three weekly exercises. The work will cover the science so far as to fit the student with knowledge sufficient for his studies in obstetrics and such other departments as may have to do with embryonic conditions. It is intended to give the student such practical features of the subject as will prove adequate for his needs as a student of medicine, without entering into the many details that tend to confuse and are not essential outside a regular course in biology.

PHYSIOLOGY

The course in physiology is given throughout the latter half of the first year. It constitutes half of the entire work required of the student during that period. The course consists of four recitations, four lectures, six hours of laboratory work, and one conference for every student, each week, together with the preparation of a technical written paper, and extra demonstrations. At the end of each month there is an important written examination.

In the recitations, familiarity with the subject-matter of an assigned text-book of physiology, and of the syllabus, is required. The lectures set forth the principles of general and descriptive physiology, and suggest some of its relations to the allied sciences, especially anatomy. In the laboratory the student has opportunity to acquire a degree of technical skill in

the use of instruments and apparatus, demonstrating for himself meanwhile some of the most important facts of biological function, a specialty being made of an acquaintance with the nature of protoplasm. A strict practical examination may be held at the end of the year in the laboratory. The conferences give each student opportunity to become familiar with the literature on important interesting physiological topics, which are then presented in written reports and freely discussed by the whole class. Record both of the attendance and of the quality of the work done in the laboratory and recitation-room will be kept, and, with the conference, will largely help to determine the standing of the student in the class. In addition, a three-hour written examination covering the entire work of the year is held at the completion of the work, besides the important subsidiary written examinations, monthly, and weekly written tests.

Advanced and research work in physiology will be provided for competent students, by special arrangement with the head of the department. Work in this department is also offered to candidates for the degree of Master of Arts. The constant aim is to adapt the work of each student both to his needs and to his capabilities.

Second Year Subjects

PATHOLOGY

The work in pathology and bacteriology will occupy the attention of the students during the first half of the second year. The instruction in pathology will consist of lectures, recitations, demonstrations, and practical laboratory work. It will be the aim to develop in the student a thorough knowledge

of the causes, course, and results of pathological processes. Daily lectures (five times a week) will be supplemented by daily recitations, based upon a syllabus covering the subjects of general pathology and special pathology.

Demonstrations of gross pathological specimens, obtained from operations and autopsies at the Boston City Hospital, the Massachusetts General Hospital, and other institutions, will be held frequently, as material is obtained. The supply of fresh material is very large, and it is usually possible to illustrate all of the common disease processes and many of the rare lesions, during the time when the class is at work. Instruction in autopsy technique will be given in the amphitheatre of the School.

The work in pathological histology will include a three-hour exercise daily, five times a week. Students will mount and make drawings of sections obtained from human and experimental lesions, comprehending all the important subjects of general and special pathology. Considerable attention will be paid to surgical pathology. Preserved gross specimens illustrating the lesions studied will be demonstrated in connection with the laboratory exercises.

Written recitations will be held, without notice, at irregular intervals throughout the term. The standard attained by the student in these exercises will influence his final mark in the subject. Final examinations will be held at the end of the year, three hours of written and two hours of practical work. A report on gross specimens may be included.

Microscopes will be loaned to students for a small fee.

BACTERIOLOGY

Bacteriology is taught as a companion study with pathology. As infectious processes are taken up, the bacterial causes are studied in connection with the pathology of the diseases which they produce, in such a way that a comprehensive view of the cause and effect may be obtained. Attention is paid to the technical details of laboratory work. The methods of bacterial action, the elaboration of toxins, the subject of immunity, and

the important bearings of asepsis, antiseptis, and disinfection are especially emphasized. Particular attention is also paid to all practical bacteriological tests used in medicine.

The bacteriological laboratory presents adequate facilities for the intelligent demonstration of this subject. In addition to the usual laboratory work, facilities are afforded students for individual work. In connection with the demonstration of gross pathological specimens, a study of bacteria present is made, both by smear and culture. The recitations in this subject will include both oral and written exercises, and practical examinations will be held throughout the year.

The final examination will consist of two hours of written and one hour of practical work. The practical examination will consist of the examination of an unknown specimen, requiring the application of a bacteriological test of clinical value.

PHARMACOLOGY

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises, twelve hours a week throughout the second half-year. Especial attention is given to the physiological action of drugs in its relation to their therapeutical application, and to the relation always existing between therapeutics and physiological and pathological laboratory work. The laboratory course is designed to familiarize the student with all medicinal preparations and processes, and consists of exercises in which the class in sections is led to this result practically.

Prescription writing and the metric system will receive careful attention. Such of the recent additions to *materia medica* as are deemed worthy will be properly considered.

BIOLOGICAL CHEMISTRY

The course begins with study of the carbohydrates, proteins and fats. These subjects are followed by consideration of the Chemical Physiology and Chemical Pathology of the human body.

Special attention is given to the chemistry and microscopy of urine, feces, blood and gastric contents. These subjects occupy a large part of the laboratory exercises.

Diagnosis of renal, gastric and intestinal diseases from chemical and microscopic findings is fully considered in both lectures and recitations.

OPTIONAL COURSE

Research Work in Biological Chemistry. Students must obligate themselves to spend at least a half-year, and write a thesis upon the result of their investigation. This course is similar to that given in the Graduate School for the degree of Master of Arts.

TOXICOLOGY

The lecture and laboratory course in Toxicology is systematic and comprehensive. Students are required to determine the identity of various organic and inorganic poisons in stomach contents, tissues and in food.

In addition to the regular recitations, occasional conferences are held, at which cases of poisoning are discussed.

PHYSICAL DIAGNOSIS

This is an elementary course in the study of physical signs in health and disease, and is the foundation for the study of Clinical Medicine. Special attention is given, in the explanation of physical signs, to the principles of physics, and to the facts of anatomy and physiology upon which they are based. The course follows the instruction in Medical Anatomy, part of the course in Applied Anatomy of the first year, and leads to the course in Medical Diagnosis in the third year. The course consists of one lecture a week throughout the second year (thirty-two lectures), and fifteen exercises in sections, chiefly, on elementary percussion and auscultation.

BANDAGING AND SURGICAL TECHNIQUE

Bandaging and surgical technique is given to students of the second year, and consists of practical work in applying bandages, dressings, splints, etc. The course is preceded by lectures and demonstrations by the Demonstrator of Bandaging and Apparatus. Upon the conclusion of the lectures, each student receives

individual instruction in the subject, and must show himself skilled in this work before completing the course.

During the second semester a series of lectures will be given upon surgical technique.

The course is a part of the work in Surgery.

Third Year Subjects

THEORY AND PRACTICE OF MEDICINE

The work prescribed in the department of general medicine has been carefully planned. As the studies of the second year are intended to prepare the student for the study of the theory and practice of medicine, so this course is intended to prepare for the clinical courses of the fourth year. To this end a systematic series of lectures is offered, including such general diseases as are not considered in the special courses. Two hours a week are devoted to these lectures. They comprise a detailed description of each of the diseases under consideration. The diseases are discussed upon the uniform plan of a description of the affection, its synonyms, history, cause, pathological changes, symptoms, complications, diagnosis, prognosis, prevention and treatment. Supplementary to these lectures, a weekly quiz class is held. By such thorough and systematic study of the diseases he is to meet in the clinical work of the fourth year, the student is prepared to appreciate in the fullest degree the varying phenomena of daily practice.

SURGERY

The course in surgery of the third year consists of lectures covering the principles of general surgery, attendance at clinics, recitations, and written quizzes. The instruction in this year prepares the student for the courses of the fourth year in clinical, abdominal, rectal, genito-urinary, gynecological, and orthopedic surgery.

The class attends the lecture in clinical surgery at the Boston Dispensary, one morning each week from October 1 to April 1, where the time is principally devoted to demonstrating from the case the various conditions which a practitioner meets in general practice. So far as possible, cases are grouped, and one morning of each week is devoted to the consideration of a single subject, with many cases illustrating the condition under discussion.

The class, divided into small sections, attends the regular surgical clinics of the School each week throughout the school year at the Boston City Hospital, the Boston Dispensary, the Carney Hospital, and St. Elizabeth's Hospital.

At some time after the course in bandaging and surgical technique, but before graduation, each student must present a certificate stating that he has served satisfactorily as surgical dresser for at least one month in some institution approved by the Faculty. All students who have not already taken the course in bandaging must make arrangements with the demonstrator to complete this course before January 1 of the third year.

LARYNGOLOGY

Instruction in the diseases of the nose and throat is both didactic and clinical. Third-year students are given during the first semester a systematic course of lectures illustrated with colored diagrams, models, pathological specimens, and the exhibition of instruments. The projection apparatus is used at the close of each lecture.

Clinical laryngoscopy and rhinoscopy are required throughout the fourth year. The students in small sections visit the laryngological clinics at the Boston Dispensary, the Boston City Hospital, and the Carney Hospital. By practical examination the technique instrumentation is taught as well as general diagnosis and treatment. The student is made familiar with ordinary diseases of the nose and throat and sees the more important operations.

NEUROLOGY

The Department of Neurology is under the direction of Dr. Thomas, and the courses consist entirely of required work.

The work of the third year consists of :

(1) Didactic lectures and recitations, once a week during the first half year by Dr. Stearns.

(2) Clinical lectures by Dr. Thomas once a week during the first half year, demonstrating the anatomy and physiology of the nervous system.

(3) Lectures on the anatomy, physiology, and pathology of the nervous system are given at the Medical School once a week during the first half-year by Dr. Tower, supplemented with instruction by sections in the laboratory in the microscopical examination of the normal and pathological nervous system; and demonstrations of gross pathological specimens.

OPHTHALMOLOGY

The course in ophthalmology will be of the most practical character possible, being designed to give the general practitioner such knowledge of the subject as is most essential to his practice. The lectures will be given once a week, the first half of the school year. For clinical work the class will be divided into small sections, preparatory to instruction at the Massachusetts Charitable Eye and Ear Infirmary.

OBSTETRICS

The instruction in obstetrics consists of lectures, recitations, and clinical teaching. Each student is given the opportunity to serve as externe in the Obstetric Out Patient department, where he personally delivers the six cases required for the degree. He is required to care for these cases during their convalescence and to write a detailed report of each case. A large majority of each class deliver more than six cases and witness the common obstetric operations.

PULMONARY DISEASES AND CLIMATOLOGY

A chair of pulmonary diseases and climatology was established some years ago, and Dr. Edward O. Otis was elected head of this department. In this department special attention is devoted to pulmonary tuberculosis. Instruction is given, both by didactic and clinical lectures; and in section work with particular reference to early diagnosis, at the Boston Dispensary; the out-patient department of the Boston Consumptives' Hospital, the Mt. Sinai Hospital and the Free Home for Consumptives. Each student is afforded ample opportunity for the examination of patients. The detection, treatment, and prevention of tuberculosis will be thoroughly studied in class and section work. Medical climatology in relation to the climatic treatment of tuberculosis will also receive special attention. The four state sanatoria at Rutland, Reading, Lakeville and Westfield and the large Boston Consumptives' Hospital and day camp afford still further opportunities for the study and observation of tuberculosis, particularly in the practical application of the open-air treatment. Visits to one or more of these institutions will be made during the year. One of the main objects of this course is to afford ample opportunities to the student to make physical examinations of the lungs under expert guidance.

GENITO-URINARY DISEASES

The required course in Genito-Urinary Diseases will commence in the second half of the third year, when the didactic lectures in this subject will be given. Clinical instruction will be given in sections during the entire fourth year.

GYNECOLOGY

Instruction in gynecology is given both by lectures and clinical teaching. Lectures are given to the third-year students twice a week during the second term. Once a week a quiz is held on the lectures.

CHILDREN'S DISEASES

The work of the third year consists of lectures on chosen subjects and clinical lectures with ward patients, covering the

common diseases of childhood, two hours a week throughout the year. Clinical instruction is given in sections at the Out-Patient Department of the Boston Dispensary and Mt. Sinai clinic. Each section works for one month and is taught by required practical work with patients in diagnosis and treatment. The clinical laboratory work helpful in diagnosis is done at the clinic in connection with the physical examination of patients. During the year the class will be taken to a model farm where all the practical points in the proper care of milk for infants will be demonstrated.

MEDICAL DIAGNOSIS

The instruction in Clinical Medicine during the third year is given under the head of Medical Diagnosis. The course continues throughout the third year. One clinical lecture each week is given at the Boston City Hospital, illustrating the subject. In addition the class, in sections, attends ward visits and medical clinics. An important part of this clinical work is given under the supervision of the Department of Pulmonary Diseases, and in district visits under the supervision of physicians of the Boston Dispensary. The work in this course is closely correlated with the course in Theory and Practice.

HYGIENE AND SANITATION

Hygiene and sanitation are taught during the third year.

The principal subjects of the course are air, water (public and private), and food supplies.

The transmissible diseases, and their epidemiology, industrial hygiene, and the inspection of work-shops and factories, house construction, heating, ventilating, and plumbing, care of family wastes, and the disposal of sewage.

Railroad sanitation, military and naval hygiene, quarantine, disinfection and fumigation. National and State laws relative to health officers, and the protection of the public health.

The inspection of schools.

Burial of the dead, and vital statistics.

HEMATOLOGY

The course in hematology consists of sixteen lectures and twelve two-hour laboratory exercises,—forty hours in all for each student during the second semester of the third year,—with occasional clinical lectures at the Boston City Hospital. It is given as a sub-department of Clinical Medicine, and it is the aim to adapt it to the needs of the future practitioner. The lectures deal with diseases of the blood from a clinical as well as from a laboratory standpoint. The first laboratory exercises consist of preliminary instruction in the technique of blood examination, followed by practical work in blood pathology. A permanent collection of some three thousand microscope slides and a number of excellent wall-charts are also available.

Fourth Year Subjects

CLINICAL MEDICINE

The aim of the work in Clinical Medicine is to give the student a practical acquaintance with disease. The instruction in this department begins with Medical Anatomy (part of the course in Applied Anatomy), in the second semester of the first year. Then follow the course in Physical Diagnosis in the second year and the course in Medical Diagnosis in the third year. The fourth-year course in Clinical Medicine is a continuation and further development of this work.

The instruction consists of two clinical lectures at the Boston City Hospital, one clinical lecture (Pulmonary Diseases) at the Boston Dispensary, and two hours at the School. One of these latter hours is given to conferences on cases which the students have studied, and the other is given partly to instruction

in practical therapeutics and dietetics, and partly to exercises in conjunction with the Department of Pathology on clinical pathology,—the clinical and pathological study of actual cases.

In addition, abundant opportunities for clinical study are offered, in ward visits and other medical clinics. This instruction is given chiefly at the Boston City Hospital, the Boston Dispensary, and the Free Home for Consumptives. The work in Pulmonary Diseases in the fourth year is regarded as part of the course in Clinical Medicine.

The marks throughout the various courses of the Department of Clinical Medicine are based on practical work and the report of cases, as well as on written examinations.

CLINICAL SURGERY

The Department of Clinical Surgery has been reorganized. Dr. William Merritt Conant, Visiting Surgeon at the Massachusetts General Hospital, has been appointed Professor of Clinical Surgery; and Dr. William Allen Brooks, Jr., Chief of the Surgical Staff at St. Elizabeth's Hospital, has been appointed Assistant Professor of Clinical Surgery. The efficiency of the department has been greatly augmented by these appointments, by which a wide range of major clinical and operative surgery is added to the teaching facilities in general surgery. The work of the fourth year consists of lectures, conferences, attendance at clinics and operations. The class in small sections attends clinics at the Massachusetts General Hospital, Boston City Hospital, St. Elizabeth's Hospital, and the Boston Dispensary. At these clinics students have opportunity for examining and studying cases; become practically familiar with diagnosis and treatment, and see a large number of surgical operations, both major and minor. Students in this class also have opportunities for administering ether and assisting at operations.

OPERATIVE SURGERY AND SURGICAL ANATOMY

The work in operative surgery has been enlarged by the addition of a course in surgical anatomy, given by the department of anatomy in conjunction with the department of clinical

surgery. This course, which includes three exercises a week for five weeks, consists of demonstrations of surgical landmarks upon the living model, the skeleton, and the cadaver, and a review of anatomy in general. Especial emphasis is laid upon that part of anatomy which is important in operative surgery.

Regional anatomy is demonstrated, and at the conclusion of the review given by the department of anatomy the important surgical operations of the region under discussion are demonstrated by members of the surgical staff. Thus surgery of the neck is first treated from the standpoint of surgical landmarks, pointed out upon the living model, the skeleton, and the cadaver. The surgical anatomy of the neck is then demonstrated on the cadaver, and at the conclusion of these exercises by the Department of Anatomy, the important surgical operations of the neck are demonstrated by members of the Department of Surgery.

The same course is pursued with all parts of the body, and at the conclusion of the anatomical teaching concerning any region, the special operations of that region are demonstrated by members of the surgical staff.

At the conclusion of the course the class is divided into small sections, and each section performs the various operations upon the cadaver in the dissecting room. Each section is supervised by an instructor.

The course in operative surgery and surgical anatomy as above outlined is a part of the required work in clinical surgery.

NEUROLOGY

The Neurology for the fourth year class consists of (1) clinical exercises in the Out-Patient Department of the Boston City Hospital at which instruction is given by Dr. Fairbanks, to sections, in methods of examination of the patient, and in topographical diagnosis of diseases of the nervous system; (2) exercises in the wards of the Boston City Hospital by Dr. Thomas, to sections, in which each student is given opportunity to

examine and study the patient for himself under the direction of the instructor, so as to become familiar with methods of examination, followed by discussions upon the differential diagnosis, pathology and treatment of the disease; and (3) clinical conferences, at which the student makes a written report of a case which he has himself seen and diagnosed, and the report is discussed by the class and the instructors. In connection with these clinical conferences each student is required to examine and report on an assigned case of nervous disease. The mark on the fourth year work is based in part upon this report of a case, and in part on the work done in the sections, and in part upon an examination which is largely clinical. Students whose attendance upon the section work is unsatisfactory are excluded from the examination. The clinical exercises are held at the Boston City Hospital during the first half year, and each section attends daily for one month, and each exercise lasts two hours.

MENTAL DISEASES

Instruction in mental diseases will be afforded by a course comprising didactic and clinical lectures, to be given weekly from January to the middle of May. Ten or more clinics will be held at the Boston Psychopathic Hospital, where a large number of patients are received annually. Two clinics will be given also at the Massachusetts School for Feeble-Minded, at Waverley. It will be the aim of this course to allow the students to become familiar with the prevalent forms of mental trouble, the early symptoms of insanity, and with the methods of commitment. Especial attention will be given to mental defects in children.

CHILDREN'S DISEASES

The fourth year work in Children's Diseases consists of one exercise a week throughout the year in case teaching, infant feeding and the feeding of delicate children. For practical work the class is divided into sections. Each section will act for one month as clinical assistants in the Out-Patient Depart-

ment of the Boston Dispensary. Opportunity is here given each student to make physical examinations and to follow up special cases. During this time three ward visits will be made weekly and one morning each week practical instruction will be given in milk analysis and the examination of stools. The work includes special instruction in the food laboratory. Contagious diseases are presented to the class in sections at the South Department of the Boston City Hospital. When possible, at these visits to the contagious wards of the hospital, the technique of intubation will be shown.

OBSTETRICS

All the important obstetric operations and operative manœuvres are demonstrated to the class in small sections, and each student then performs these operations on the manikin under the guidance of the instructor. This individual teaching constitutes a highly valuable and practical experience.

MEDICAL JURISPRUDENCE

In most institutions instruction in legal medicine is limited to those subjects which prepare the graduate for the work of the medical examiner or coroner, in spite of the fact that only a small number of practitioners ever have opportunity to exercise these functions.

The course which will be offered to the fourth-year class is intended to be broader in scope and it will include:

Instruction on the rights and duties of the physician in court.

A study of the legal relations of the physician to the public, to the profession, and to his patients.

Instruction on the duties of the medical examiner, illustrated by practical demonstration of medico-legal cases.

ORTHOPEDIC SURGERY

The course in orthopedic surgery consists of didactic and clinical lectures extending throughout the year, and of clinics for small sections where the student is familiarized by actual work with the technique of the various mechanical and therapeutic

measures employed in the practice of Orthopedic Surgery. The clinical work will be carried on at the Massachusetts General Hospital, the Boston Dispensary, and the Robert Brigham Hospital.

OTOLOGY

Instruction in otology consists of lectures on the anatomy, physiology, and pathology of the ear, at the Massachusetts Charitable Eye and Ear Infirmary. These lectures are illustrated by Politzer's charts of the human ear, models, anatomical specimens of the temporal bone, bone-corrosion preparations, and microscopical sections of the organ of hearing.

Clinical and practical instruction in otology is given to small sections of the class at the close of each lecture. The students witness the examination and treatment of patients, are invited in class sections to be present at the major operations upon the ear, and to accompany the aural surgeon in his daily rounds through the wards.

DISEASES OF THE RECTUM

The course in diseases of the rectum will consist of weekly lectures during the first half-year at the School, and clinical instruction every morning at the rectal department of the Boston Dispensary. Each student will have ample opportunity to examine patients, and in suitable cases to apply treatment. Especial attention will be paid to so-called "office treatment" of this class of diseases.

DERMATOLOGY

The instruction in dermatology will consist of weekly lectures to the fourth-year students from January to April. Also, from October to May, there will be three weekly clinics at the Boston City Hospital, where cases of skin diseases will be shown to the class, with an opportunity for each student to examine the cases personally.

GENITO-URINARY SURGERY

Clinical instruction in genito-urinary surgery is given at the genito-urinary department of the Mt. Sinai Hospital and the Boston Dispensary. All the students of the fourth year are

required to attend these clinics in sections permitting individual instruction, and are taught the chief points of modern genito-urinary technique. As the number of patients attending these clinics is very large, each student has an opportunity to see many cases of genito-urinary surgery and to become familiar with their diagnosis and treatment.

ELECTRO-THERAPEUTICS

The course in electro-therapeutics given to the fourth-year students will consist of twelve lectures, with occasional quizzes. It will include a brief review of the principles of electro-physics, the nature, methods of production, and physiological action of the various forms of electrical energy, together with a brief discussion of therapeutic uses and limitations.

CLINICAL GYNAECOLOGY

The first essential being the ability to make an exact diagnosis, the students of the fourth-year class, in sections of two students only, are given abundant opportunity to make physical examinations under proper supervision. The daily clinics (morning and afternoon) of The Dispensary for Women, of the Boston Dispensary, the Tremont Dispensary, Carney Hospital, St. Elizabeth's Hospital, and Mount Sinai Hospital provide a course in methods of diagnosis and treatment superior to any other in New England. Adequate provision is also made for students to witness operations in plastic and major pelvic surgery.

CLINICAL TUBERCULOSIS

A special elective course in clinical tuberculosis is given to the fourth-year class by Professor Otis during the months of January, February, and March. It will pay special attention to the early stages of the disease, and will deal generally with the diagnosis, prognosis, treatment, and prophylaxis of pulmonary tuberculosis. There will be at least twenty-five clinical exercises, and a required essay, or examination.

TEXT-BOOKS

[For the session 1914-15]

The first book mentioned is preferred as a text-book, the others being recommended as collateral reading.

Anatomy.—Piersol, Gray, Morris, Cunningham, Eisendrath, Sabotta, McMurrich, Spatheholz, Cunningham's Manual of Dissection.

Bacteriology.—Syllabus, Park and Williams, Hiss and Zinsser, Jordan, Muir and Richie, McFarland, Abott, Lehmann and Neumann, Sternberg.

Biological Chemistry.—Hammarstein's Physiological Chemistry, Emerson's Clinical Diagnosis, Ogden's Clinical Examination of the Urine, Purdy's Practical Urinalysis and Urinary Diagnosis, Simon's Clinical Diagnosis, Wood's Chemical and Microscopical Diagnosis, Holland's Medical Chemistry and Toxicology.

Children's Diseases.—Holt's Diseases of Infancy and Childhood, Kerley's Treatment of Children's Diseases, Sach's The Nervous Diseases of Children, Morse's Case Histories in Pediatrics.

Clinical Gynaecology.—Dudley, Crossen, Montgomery.

Clinical Medicine.—Osler's Practice of Medicine, Wood and Fitz's Practice, Ander's Practice of Medicine, Forscheimer's Prophylaxis and Treatment.

Clinical and Operative Surgery.—Brewer, International Text-book, American Text-book, Wharton and Curtis, Roberts, Stimson on Fractures and Dislocations, Scudder on Treatment of Fractures, Binney's Operative Surgery, Treves's Surgical Anatomy, Crandon's Surgical After-Treatment.

Dermatology.—Hyde and Montgomery's Diseases of the Skin, Duhring; Stelwagon, Crocker, Kaposi, Besmer.

Diseases of the Rectum.—Kelsey, last edition; Tuttle, Gant, second edition.

Gastro-Intestinal Diseases.—Riegel, Boas, Kemp (of the Stomach), Boas, Ernborn (of the Intestines).

Genito-Urinary Diseases.—Keyes, Morton, Taylor, Greene-Brooks.

Gynaecology.—Dudley, Kelly, Reed.

Hematology.—Cabot's Clinical Examination of the Blood.

Histology.—Syllabus, Böhm and Davidoff, Stohr, Ferguson, Bailey, Schäfer's Essentials.

Hygiene.—Bergey, Principles of Hygiene; Egbert's Hygiene and Sanitation.

Laryngology.—Coakley, Knight, Kyle, Shurley, Ballenger.

Materia Medica and Therapeutics.—Hare, Wood, Cushny, Thornton's Dose Book and Manual of Prescription Writing.

Medical Diagnosis.—Musser's Medical Diagnosis.

Medical Dictionary.—Gould, Dunglison, Dorland.

Mental Diseases.—Dercein's Clinical Manual of Mental Disease, Brower and Bannister's Practical Manual of Insanity Diefendorf's Clinical Psychiatry, Berkely's Mental Diseases, Wood's, Reference Handbook, article on Insanity, Clouston's Clinical Lectures on Mental Diseases, Tuke's Dictionary of Psychological Medicine, E. Regis's Practical Manual of Mental Medicine, Wm. A. White's Outlines of Psychiatry.

Neurology.—Oppenheim, Church and Peterson, Starr Nervous Diseases, Bing's Topographical Diagnosis.

Obstetrics.—J. W. Williams' Text Book of Obstetrics (third edition).

Ophthalmology.—Fuch, Swanzey, May.

Orthopedics.—Bradford and Lovett, Whitman's Orthopedic Surgery (fourth edition).

Otology.—Bacon's Manual of Otology.

Pathology.—Syllabus, Stengel, Ziegler, Coplin, Mallory and Wright's Technique, Durck's Pathological Histology, Cohnheim, Green, American Text Book.

Physical Diagnosis.—DaCosta's Physical Diagnosis, Ander's Physical Diagnosis.

Physiology.—Syllabus, Dearborn's Text-Book of Physiology, Howell, Landois, Verworn, Schäfer, Morat, Hutchinson, McFarland's Biology.

Practice of Medicine.—Osler, Tyson, Forscheimer's Prophylaxis and Treatment, Anders's Practice of Medicine, Thompson, Strümpell, Eichhorn. Friedenwald and Ruhräh-Diet in Health and Disease.

Pulmonary Diseases.—Babcock's Diseases of the Lungs; Otis' Tuberculosis, its Cause, Cure and Prevention; Otis' Treatment of Tuberculosis in Musser and Kelley's "Practical Treatment"; Hawe's Early Pulmonary Tuberculosis; Bonney's Tuberculosis and its Complications; Osler's System of Medicine, article "Tuberculosis."

Surgery.—Da Costa, International Text-book, American Text-book, Stimson on Fractures and Dislocations.

Toxicology.—Withan's Toxicology, Peterson and Haine's Legal Medicine and Toxicology, Blyth Poisons.

Requirements for Admission

In accordance with the rules made by the Association of American Medical Colleges, of which this School is a member, the following requirements will be enforced.

Admission to the first-year class may be obtained in two ways:

1. By presenting a bachelor's degree from an accredited* college or university.
2. By the satisfactory completion of a pre-medical course of at least one year's work in an accredited college or university, including courses in Physics, Chemistry, Biology, and German or French.

The Trustees of Tufts College have provided a course of study extending over seven years which leads to the degrees of B.S. and M.D. Work for the first three years is pursued in the School of Liberal Arts, and for the remaining four in the Medical School. At the end of the fourth year the degree of Bachelor of Science may be conferred, and at the end of the seventh year the degree of Doctor of Medicine. An outline of the course leading to the degree of B.S. may be found on pages 116-117.

There has also been provided at the Medical School, for those who cannot afford to spend seven years, a One-Year Pre-Medical Course, upon the satisfactory completion of which the student may be admitted to the Medical School without further examination. For detailed information see the Pre-Medical Course.

*The term "accredited" as applied to high schools, academies, colleges and universities means institutions of that type that have been investigated and are accredited by the State University of their respective states, by the North Central Association of Colleges and Secondary Schools, the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the New England College Entrance Certificate Board, the Association of American Universities, and the Association of State Universities.

GRADUATION

For the Degree of M.D.

Candidates for the degree of Doctor of Medicine must have fulfilled the following requirements :—

1. They must furnish certificates that they are twenty-one years of age.
2. The Faculty must be satisfied of their good moral character.
3. They must have attended four full courses of medical study at some accredited medical college, the last of which shall have been at this School as members of the fourth-year class, and no two courses in the same twelve months.
4. They must have passed all the required examinations, and have performed the required amount of laboratory and clinical work.
5. They must have satisfactorily dissected one-half of the body, under the direction of a demonstrator of anatomy.
6. They must have paid all fees.

CHANGE OF REQUIREMENTS

The Faculty reserve the right to change all requirements without further notice.

HONORS

Students who have attended four full courses of lectures at this School, and have obtained an average of ninety per cent. in their examinations, shall be eligible to "*summa cum laude*."

Students who have obtained an average of eighty per cent. shall be eligible to "*cum laude*," in connection with the degree received.

STANDING AND CERTIFICATES

At the end of each session a certificate of his standing for the year is sent by mail to each student. No marks will be sent or credit given to any student who is in arrears with the Bursar.

FEES AND EXPENSES

A matriculation fee of *five dollars* is payable each year at the time of registration.

A charge of *one hundred and fifty dollars* for tuition is payable in advance on or before October 10. If not paid before November 1, there will be an additional charge of *five dollars*.

If desired, the tuition may be paid in two instalments, in which case an additional charge of five dollars is made, and the fees are then paid as follows:—

First payment:—Five dollars for matriculation fee and seventy-five dollars on account of the tuition, a total of *eighty dollars*, payable at the beginning of the first semester.

Second payment:—Seventy-five dollars, the balance of the tuition, and five dollars, the additional charge, a total of *eighty dollars*, payable at the beginning of the second semester, or before February 1.

There is no charge for laboratory supplies. Anatomical material will be supplied at cost.

No student will be admitted to the exercises of the first half-year who has not paid his matriculation fee and at least one half the tuition, and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the school have no claim for tuition paid.

Students who have failed twice in a subject are required to pay a fee of five dollars for each subsequent examination in that subject.

POST-GRADUATE FEES

Post-graduate fee for graduates of other schools . . .	\$150.00
Single course	50.00
Post-graduate fee for graduates of this school . . .	60.00
Single course	30.00
Anatomical material	at cost

The Bursar of the College will be at the School, Monday, Wednesday, and Friday, 2.30 to 5.00 P.M., from October 1 to June 1.

There are no scholarships connected with the School.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, heat, and light, can be obtained in the vicinity of the school at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

LIBRARIES

The students of this school have free access to the Medical School Library, to the Library of Tufts College, to the Boston Public Library, and to the Boston Medical Library.

The library at the Medical School is open daily from 9.00 a. m. to 5 p. m., except Sundays and holidays. This library is intended to provide *text books for reference*, and the latest editions of all text books used in the school are furnished. These cannot be taken from the Reading Room. In addition, the library contains a large number of reference books in general medicine and general surgery, and in special branches of each. These works are loaned to the student free of charge, and can be taken out. Files of various medical journals provide a valuable addition to the school library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of medical works in existence. It contains not only bound volumes of every important book in medical literature, but also a very extensive collection of monographs and pamphlets on special subjects. All the leading medical journals are on file for inspection. The Boston Medical Library extends its privileges, under certain conditions, free of charge to students of this School. Its rooms are open daily from Oct. 1 to May 31, from 9.30 a. m. to 10.00 p. m., except Sundays and holidays. The hours on Saturday are from 9.30 a. m. to 6 p. m.

APPLICATIONS

Students who intend to enter the School for the first time must obtain from the Secretary an application blank, which they are required to fill out and return to him. Application blanks will be mailed upon request.

REGISTRATION

Registration is required of all students, each year. Registration for the session 1915-16 will commence Monday, September 6, 1915, and close Saturday, October 9, 1915. Registration is conducted at the school building only.

Pre-Medical Course

CORPS OF INSTRUCTION

GEORGE ANDREW BATES, M.Sc., D.M.D. Auburndale
Professor of Biology

ALFRED WILLIAM BALCH, Ph.G., M.D. . 44 Linden St., Brookline
Professor of Chemistry

ROBERT EATON ANDREWS, A.B., M.D. . 1044 Massachusetts Ave.
Instructor in Physics Cambridge

GEORG VAN WIEREN So. Framingham
Instructor in German

EDWARD EARLE SWAIN, A.B., A.M. Box 3628, Boston
Instructor in French

HAROUTIOUN HOVANS CHAKMAKJIAN, A.B. . 37 Endicott Ave.,
Instructor in Chemistry

One-Year Pre-Medical Course

In accordance with the recent vote of the Association of American Medical Colleges, of which Tufts College Medical School is a member, on and after January 1, 1914, one year of college work in Physics, Chemistry, Biology and either French or German equal to the work done in the freshman year in standard colleges and universities, in addition to a completed four year course in an accredited high school, will be required for admission to Tufts College Medical School.

The Trustees of Tufts College have arranged to give the One-Year Pre-Medical Course in their building in Boston.

ENTRANCE REQUIREMENTS

Candidates for admission to this One-Year Pre-Medical Course must pass examinations or present a diploma and a transcript of record from an accredited school showing adequate preparation in certain subjects falling in two groups, known respectively as the Required and the Elective Group. A unit represents a year's study in any subject in the secondary school, representing approximately a quarter of a full year's work.

Required Group, 7 Units

English A, 2 (Reading and Practice)

Elementary Language, 2

Elementary Algebra, 1

Plane Geometry, 1

The History and Government of the United States, 1

Candidates for admission must present all the subjects of the Required Group, and 7 units chosen from the subjects of the following Elective Group. No subject offered in the Required Group can be counted in the Elective Group.

*The term "accredited" as applied to high schools, academies, colleges and universities means institutions of that type that have been investigated and are accredited by the State University of their respective states, by the North Central Association of Colleges and Secondary Schools, the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the New England College Entrance Certificate Board, the Association of American Universities, and the Association of State Universities.

The Elective Group. 7 Units

English B, 1	Mechanical Drawing, 1
Greek, 2 or 3	Freehand Drawing, $\frac{1}{2}$
Latin, 2 or 3	Shop Work, $\frac{1}{2}$ to 2
French, 2 or 3	Musical Appreciation, $\frac{1}{2}$
German, 2 or 3	Music (Harmony), $\frac{1}{2}$
Chemistry, 1	Algebra (completed), $\frac{1}{2}$
Physics, 1	Solid Geometry, $\frac{1}{2}$
Botany, 1	Trigonometry, $\frac{1}{2}$
Zoology, 1	English History, 1
Geology or Geography, 1	Ancient History, 1

Detailed information concerning the amount and character of the work required in preparation may be found on pages 46 to 73.

The course of study for the year covers the same period of time as that of the Medical School. For dates see the general calendar.

The program of work is as follows:

Chemistry.—Two lectures or recitations of one hour each per week.

Two laboratory periods of two hours each per week.

Biology.—Two lectures or recitations of one hour each per week. Two laboratory periods of two hours each per week.

Physics.—Two hours of lectures or recitations of one hour each per week. Two laboratory periods of two hours each per week.

German or French.—Four hours of lectures or recitations of one hour each per week.

Entrance Examinations

Candidates may take the examinations of the College Entrance Examination Board, June 14 to 19, 1915, at Tufts College or elsewhere. Full information concerning application for such examination may be had by addressing the Secretary of the Board, Post Office Sub-Station 84, New York.

Examinations will be given in September at Tufts College, according to the schedule published in the calendar at the beginning of this catalogue. An examination fee of \$5.00 is payable at the time of examination, but candidates who subsequently enter the Pre-Medical Course will not be required to pay the matriculation fee.

The tuition is \$125 for the year and is payable in advance. If desired, the tuition may be paid in two instalments, in which case, an additional charge of five dollars is made and the fees are then paid as follows:

First payment, \$70, payable at the beginning of the first semester.

Second payment, \$60, payable at the beginning of the second semester, or before February 1.

There is no charge for laboratory supplies.

Students who do not own a microscope may be supplied with one from the school for a small fee, but are urged to secure one for themselves as it is needed throughout the medical course.

Applicants who intend to take this pre-medical year at Tufts College Medical School are required to fill out and return to the Secretary an application blank, which will be mailed upon request.

For catalogue and further information apply to

FRANK E. HASKINS, M.D., *Secretary*,

Tufts College Medical School,

416 Huntington Avenue, Boston, Mass.

THE DENTAL SCHOOL

Faculty of the Dental School*

- HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT
8 Professors Row, Tufts College
- CHARLES FAIRBANK PAINTER, A.B., M.D. . 372 Marlborough St.
Professor of Othopedic Surgery, and Dean
- HAROLD WILLIAMS, A.B., M.D., LL.D. 528 Beacon St.
Professor of the Theory and Practice of Medicine and Dean of the Medical and Dental Schools, Emeritus
- FRANK EUGENE HASKINS, PH.G., M.D. . . 204 Huntington Ave.
Assistant Professor of Materia Medica and Therapeutics and Secretary of the Faculty
- FREDERIC MELANCTHON BRIGGS, A.B., M.D. 536 Commonwealth Avenue
Professor of Surgery, Emeritus
- CHARLES ALFRED PITKIN, A.M., PH.D. South Braintree
Professor of General Chemistry
- GEORGE COOK AINSWORTH, D.D.S., D.M.D. . 220 Clarendon St.
Associate Professor of Clinical Dentistry
- FRANK GEORGE WHEATLEY, A.M., M.D. 174 Adams St.
Professor of Therapeutics North Abington
- BYRON HOWARD STROUT, D.D.S. Taunton
Professor of Operative Technics
- WILLIAM ELISHA CHENERY, A.B., M.D. . . 222 Huntington Ave.
Professor of Oral Surgery
- WILLIAM RICE, D.M.D. 16 Arlington St.
Professor of Operative Dentistry
- GEORGE ANDREW BATES, M.Sc., D.M.D. Auburndale
Professor of Histology
- WILLIAM PRESTON HOUSTON, D.M.D. . . 416 Huntington Ave.
Assistant Professor of Clinical Dentistry
- EUGENE THAYER, A.M., M.D. . . . 2683 Washington St., Roxbury
Demonstrator of Anatomy
- GEORGE VAN NESS DEARBORN, A.M., M.D., PH.D. 6 Mason St., Cambridge
Professor of Physiology

* When only street and number are given in the address, the street is in Boston. With the exception of the President, the Dean, and the Secretary, the names are arranged in the order of academic seniority.

FRANK ALEXANDER DELABARRE, A.B., D.D.S., M.D., <i>Professor of Orthodontia</i>	520 Beacon St.
WALTER EMERSON FARRIS, D.D.S.	711 Boylston St. <i>Assistant Professor of Prosthetic Dentistry</i>
TIMOTHY LEARY, A.M., M.D.	44 Burroughs St., Jamaica Plain <i>Professor of Pathology, Bacteriology and Medical Jurisprudence</i>
ERVIN ARTHUR JOHNSON, D.M.D.	541 Boylston St. <i>Professor of Clinical Dentistry</i>
HARRY HOMER GERMAIN, M.D.	416 Marlborough St. <i>Assistant Professor of Anatomy</i>
JAMES KELTIE, D.D.S.	419 Boylston St. <i>Professor of Crown and Bridge Work</i>
OLGA CUSHING-LEARY, M.D.	44 Burroughs St., Jamaica Plain <i>Assistant Professor of Pathology and Bacteriology</i>
CURTIS WILLIAM FARRINGTON, D.M.D.	246 Huntington Ave. <i>Assistant Professor of Clinical Dentistry</i>

OTHER INSTRUCTORS

CAROLUS AARON FOX, D.D.S.	419 Boylston St. <i>Demonstrator of Clinical Dentistry</i>
IVAN ALEXIS TEOFIL CENTERVALI, B.S., D.M.D.	2 Park Sq. <i>Instructor in Clinical Dentistry</i>
CHARLES HARVEY DAVIS, D.D.S.	24 High St., Pawtucket, R. I. <i>Instructor in Clinical Dentistry</i>
WILLIAM MARTIN FLYNN, D.M.D.	474A Broadway, S. Boston <i>Instructor in Clinical Dentistry</i>
OSCAR EMERY WASGATT, D.D.S.	419 Boylston St. <i>Demonstrator of Clinical Dentistry</i>
ROBERT EATON ANDREWS, A.B., M.D.	1044 Mass. Ave., Cambridge <i>Assistant in Physiology</i>
EDWARD VALENTINE BULGER, D.M.D.	513 Broadway, S. Boston <i>Instructor in Clinical Dentistry</i>
ALLAN JAMES MACDONALD, D.D.S.	16 Arlington St. <i>Demonstrator of Clinical Dentistry</i>
HOWARD WARDWELL CHURCH, D.M.D.	471 Hope St., Bristol, R. I. <i>Instructor in Clinical Dentistry</i>

- WALTER FREEMAN NOLEN, M.D. 535 Beacon St.
Instructor in Anatomy
- JOSEPH WILLIAM SHAY, D.M.D. 238 Warren St., Roxbury
Demonstrator of Clinical Dentistry
- WALTER HENRY GRANT, D.M.D. 107 Massachusetts Ave.
Demonstrator of Clinical Dentistry
- GILMORE COLBY DICKEY, D.M.D. . . Upham's Corner, Dorchester
Instructor in Crown and Bridge Work
- WILLIAM HENRY EATON, D.M.D. 419 Boylston St.
Instructor in Clinical Dentistry
- HECTOR GEORGE RISEGARI-GAI, D.M.D. . . . 85 Pleasant St.
Instructor in Clinical Dentistry Dorchester
- ALBERT JOHN ADAMS HAMILTON, M.D. 69 Newbury St.
Assistant Demonstrator of Anatomy
- JAMES JOSEPH HEPBURN, M.D. 536 Commonwealth Ave.
Assistant Demonstrator of Anatomy
- ARTHUR HERBERT McINTOSH, D.M.D. 687 Boylston St.
Assistant in Crown and Bridge Work
- JOSEPH ALOYSIUS MEHAN, M.D. 4 Park St., Lowell
Instructor in General Chemistry
- EVERETT MITCHELL BROWN, D.M.D. . . . 246 Huntington Ave.
Instructor in Operative Technics
- WILLARD SAWTELLE DAVIS, D.M.D. . . . 1034 Hyde Park Ave.,
Demonstrator of Clinical Dentistry Hyde Park
- EDWARD BAILEY BRANIGAN, D.M.D. Groton
Instructor in Clinical Dentistry
- WILLIAM HENRY CANAVAN, D.M.D. . . . 180 Shirley Ave., Revere
Demonstrator of Operative Technics
- ALBERT GEORGE FITZPATRICK, D.M.D. 697 Broadway,
Instructor in Clinical Dentistry West Somerville
- NAPOLEON JOSEPH GOULET, D.M.D. . . . 254 Main St., Marlboro
Instructor in Clinical Dentistry
- HUGH CHARLES MAGUIRE, D.M.D. 715 Centre St., Jamaica Plain
Instructor in Clinical Dentistry
- GEORGE FRANCIS McINTIRE, M.D. 5 Dana St., Cambridge
Assistant Demonstrator of Anatomy

- ARTHUR LINWOOD MORSE, D.M.D. 520 Beacon St.
Instructor in Orthodontia
- WALTER WESTWOOD, D.M.D. 101 Tremont St.
Instructor in Clinical Dentistry
- CHARLES EDWARD WHITNEY, D.M.D. Milford
Instructor in Clinical Dentistry
- EUGENE TODHUNTER VINCENT, D.M.D., M.D.
Demonstrator of Clinical Dentistry 93 Massachusetts Ave.
- NATHANIEL WOODBURY BRAGDON, D.M.D. . . . 21 Maple St.,
Demonstrator of Clinical Dentistry Danvers
- WALTER EMERSON BRIGGS, D.M.D. . . 35 So. Main St., Attleboro
Instructor in Clinical Dentistry
- JAMES ELLIOTT COX, D.M.D. 56 High St., Charlestown
Demonstrator of Clinical Dentistry
- JAMES J. DUDDY, D.M.D. 15 Cottage St., Brockton
Assistant in Orthodontia
- ERNEST WILLOUGHBY GATES 29 Myrtle St., E. Dedham
Assistant in Orthodontia
- JOSEPH CORNELIUS GETHRO, D.M.D. . . . 848 Washington St.,
Instructor in Clinical Dentistry Norwood
- HARRY WINFIELD PERKINS, D.M.D. . . 29 Commonwealth Ave.
Assistant in Orthodontia
- LOUIS RAYMOND BURNETT, M.D. . . . 8 Everett St., Cambridge
Assistant Demonstrator of Anatomy
- JOSEPH PATRICK TYNAN, M.D. . . . 499 Broadway, So. Boston
Assistant Demonstrator of Anatomy
- CHARLES BUTLER WRY, D.M.D. . . . 60 Mountain Ave., Revere
Demonstrator of Clinical Dentistry
- FRANCIS F. HENDERSON, M.D. 39 Newbury St.
Assistant Demonstrator of Anatomy
- OTTO J. HERMANN, A.B., M.D. 139 Beacon St.
Assistant Demonstrator of Anatomy
- FREDERICK EDWARD GRANT, D.M.D. . . Boyden Sq., E. Dedham
Instructor in Clinical Dentistry
- FRANCIS RANDOLPH HENDERSON, D.M.D. . . . 65 Clark St.,
Instructor in Clinical Dentistry Everett

- HAROLD GIFFORD METTERS, D.M.D. Bridgewater, Mass.
Instructor in Clinical Dentistry
- EDWIN JOHN MORSE, D.M.D. 541 Boylston St.
Instructor in Prosthetic Dentistry and Assistant in Operative Technics
- RENE LUCIEN PETZOLDT, D.M.D. 64 West Newton St.
Demonstrator of Clinical Dentistry
- FRANCIS WHITE REGAN, D.M.D. 2 Park Sq.
Demonstrator of Clinical Dentistry
- GEORGE ALLEN SPRINGALL, D.M.D. . . . 442 Main St., Malden
Assistant in Orthodontia
- CARL WYMAN STEGMAIER, D.M.D. . . . 34 Bow St., Somerville
Instructor in Clinical Dentistry
- WILLIAM CHARLES TANNEBRING, D.M.D. . . . 163 Cabot St.,
Instructor in Clinical Dentistry Beverly
- ERLE D. FORREST, M.D. . . Rhode Island Hospital, Providence, R. I.
Assistant in Physiology
- HARRY AUGUSTUS GREENE, D.M.D. . . 639 Massachusetts Ave.
Instructor in Clinical Dentistry Cambridge
- EDWARD ALBERT KINLEY, JR., D.M.D. . . . 419 Boylston St.
Assistant in Operative Technics
- HARRY CLIFFORD RYDER, D.M.D. . . . 15 Warren St., Stoneham
Instructor in Clinical Dentistry
- HAROLD WOODBURY SHEDD, D.M.D. . . . 815 Washington St.,
Instructor in Clinical Dentistry Newtonville
- JOHN JOSEPH AHERN, JR., D.M.D. . . . 2240 Massachusetts Ave.,
Instructor in Clinical Dentistry at Hood Rubber Co., Cambridge
Watertown
- ALFRED VALENTINE COGAN, D.M.D. . . 651 Broadway, S. Boston
Assistant in Crown and Bridge Work
- CHARLES ROMANDEL GALE, D.M.D. . . . 618 Washington St.,
Assistant in Crown and Bridge Work Dorchester
- JOHN LEO KING, D.M.D. 46 Orkney Rd., Brookline
Instructor in Prosthetic Dentistry
- FRED EMIL SIMM, D.M.D. 120 Tremont St.
Instructor in Prosthetic Dentistry
- FRANK ADELBERT WILLIS, D.M.D. 419 Boylston St.
Assistant in Crown and Bridge Work

ROGER PARKER BECMAN, D.M.D.	16 Essex St., Cliftondale
<i>Assistant in Crown and Bridge Department</i>	
ARTHUR J. SHAW, D.M.D.	Dorchester
<i>Instructor in Clinical Dentistry</i>	
MINOTT WHITE LEWIS, D.M.D.	Somerville
<i>Instructor in Clinical Dentistry</i>	
EMMANUEL SCHER, D.M.D.	79 Halworthy St., Roxbury
<i>Instructor in Prosthetic Dentistry</i>	
JOHN CHESTER WILSON, D.M.D.	Beverly
<i>Assistant in Crown and Bridge Department</i>	
JOSEPH ALOYSIUS MANNING, D.M.D.	56 Moreland St., Roxbury
<i>Instructor in Clinical Dentistry</i>	
RALPH H. GRIFFIN, D.M.D.	30 Huntington Ave.
<i>Instructor in Clinical Dentistry</i>	
RALPH HENRY GRIFFIN, D.M.D.	30 Huntington Ave.
<i>Instructor in Clinical Dentistry</i>	

OTHER OFFICERS

EDMUND WILBUR KELLOGG	24 Milk St., Boston
<i>Assistant Treasurer</i>	
EUGENE EVERETT SHEPARD	43 Boston Ave., W. Medford
<i>Bursar</i>	
LINA A. MAYO	Milton
<i>Stenographer</i>	
LILLIAN M. TATTAN	Somerville
<i>Clerk to Secretary</i>	
MARY WRIGHT RICHARDSON	884 Huntington Ave.
<i>Clerk of the Department of Clinical Dentistry</i>	
SARAH ELIZABETH MILLER	206 Massachusetts Ave.
<i>Clerk of the Department of Prosthodontia</i>	
FRANCES WILDER	Chelsea
<i>Matron of the Department of Anesthesia and Extraction</i>	
ESTHER C. TATTAN	Somerville
<i>Clerk in the Crown and Bridge Department</i>	

STANDING COMMITTEES OF THE DENTAL SCHOOL

The Dean and the Secretary are members of all Committees, *ex officio*
 ADMINISTRATION.—The President, Drs. Bates, Johnson, Farris, Strout, and Keltie.

ADMISSION.—Drs. Leary, Bates, Dearborn, and Professor Wren.

LIBRARY.—Drs. Bates and Houston.

INSTRUCTION.—Drs. Johnson and Bates.

CATALOGUE.—Drs. Bates and Dearborn.

WOMEN'S ADVISORY COMMITTEE.—Drs. Elizabeth A. Riley, Olga Cushing-Leary, and Edna Weil-Dreyfus.

LABORATORY ASSISTANTS

General Chemistry

GERALD B. O'NEIL Chicopee Falls
 WARREN C. CALDWELL Dorchester
 THOMAS C. McDONNELL Pittsfield

Physiology

ROBERT E. ANDREWS, M.D. Cambridge
 JAMES A. MCKENZIE, M.D. Boston
 FRANK E. WHEATLEY, M.D. N. Abington
 ROYAL K. JOSLIN Providence, R. I.
 JONATHAN P. HADFIELD Providence, R. I.
 MILLARD C. CLARK Dublin, N. H.
 FREDERICK W. MARONEY Springfield

Tufts College Dental School

416 Huntington Avenue

Boston, Mass.

The Dental School, formerly the Boston Dental College, became an incorporate part of Tufts College in 1899, under a special act of the legislature. It was incorporated under its former name in 1868, and has a large and distinguished body of alumni. Its transfer to Tufts College was in consequence of the new anatomical laws of the State, and because it was felt by its former board of trustees that the advance in dental education rendered it desirable that the purely scientific part of its curriculum should be pursued in connection with a medical school.

The course of instruction in this institution embraces three academic years of eight months each. The studies of the first year, and a portion of those of the second year, are given in connection with those of the Medical School. Instruction is by means of lectures, demonstrations, laboratory work, and recitations, in anatomy, physiology, histology, chemistry, materia medica, pathology, therapeutics, bacteriology, principles of surgery, hygiene, theory and practice of dentistry, oral surgery, and in operative, clinical, and prosthetic dentistry, orthodontia, and dental technics.

The infirmary, under the personal direction of the Professor of Clinical Dentistry, assisted by a corps of demonstrators, is open daily through the year, except during a part of June, the whole of July and August, and a part of September. In the abundance and variety of its clinical material it furnishes an unsurpassed opportunity for the study of oral surgery and of dentistry in all its branches.

The laboratory of the prosthetic department is provided with perfect facilities for every variety of dental work. Every

student is required before graduation to present satisfactory specimens of the different forms of mechanical work made by himself in the laboratory of the School, and under the supervision of the Professor of Prosthetic Dentistry.

Further opportunities for instruction are furnished by the valuable clinics and operations at the large hospitals of the city, which can be visited by the matriculates of this institution. Numerous operations upon the face and oral cavity are performed before students on public operating-days, and all connected with the School are urged to avail themselves of the facilities thus offered.

THE BUILDING

The building is occupied by the combined Medical and Dental Schools of Tufts College, and was built in 1900. Owing to the rapid growth of the school it has been found necessary to provide more and larger quarters for lectures and laboratory work. A fourth story has been added, and the building largely remodeled, three new lecture rooms being added, giving a total of six, the largest seating 400 and the smallest 100. Each room has an excellent seating arrangement and there is an up-to-date equipment of opaque projection and lantern slide apparatus. A new laboratory for the department of Chemistry has been constructed, the laboratory of the department of Pathology and Bacteriology has been renovated and enlarged, and the laboratory of the department of Histology and Physiology has been completely remodeled. The building now has every possible facility for the most advanced laboratory instruction.

Special attention is called to the dental infirmary which occupies the first floor of the dental wing. This room, 125 by 29 feet, is equipped and arranged in a manner similar to the operating room of a hospital; aseptic chairs, cuspidors and brackets have been especially constructed for this school. Steam sterilizers have been provided for the disinfection of instruments, and it is believed that by these modern applica-

tions of asepsis to dentistry, the infirmary is among the most complete dental infirmaries in this country. The prosthetic department, which corresponds in size to the infirmary, is equipped in the most approved modern fashion. For this department electric power is supplied. The lower floor of the dental wing is devoted to operative technics and to the department of anaesthesia and extraction. In the latter department, the most improved apparatus for the administration of nitrous oxide gas is provided, and there is a recovery room under the charge of a professional nurse, who is in daily attendance. A surgeon connected with the Medical School is present on occasions when ether is administered.

CLINICAL FACILITIES

The clinical advantages offered are unsurpassed. In addition to the work in the School Infirmary, students are assigned to the dental clinics at the Boston Dispensary, the Hull House Dispensary, the City Institution at Deer Island, Hood Rubber Co., Watertown and the Forsyth Dental Infirmary for Children. In these institutions they receive practical instruction under the direction of instructors in the School.

Subjects of Instruction

ANATOMY

The course in anatomy is given throughout the first half of the first year. It consists of five lectures and two recitations weekly with the class, and of special demonstrations on the cadaver. In addition, during the first four weeks of the course six hours a week are devoted to section work in Osteology. Each student is required to dissect two parts, to the satisfaction of the Demonstrator of Anatomy, before taking the final examination. Record of attendance and of the quality of the work done in the dissecting room will be kept, and will largely determine the standing of the student in the class.

CHEMISTRY

The course in general chemistry consists of descriptive chemistry and qualitative analysis, with so much of theoretical chemistry as is necessary for a proper understanding of the subject.

The classification of the carbon compounds is also taken up at considerable length, and special reference is made to those which are of interest in the study of Dentistry. The instruction is by lectures, recitations, and practical work by the students in the laboratory. There are five lectures, two recitations, and six or more hours of laboratory work for each student, every week during the first semester. Much attention is given to qualitative analysis for the sake of the valuable training which it imparts, and the knowledge of chemistry which is incidentally gained. The importance of this knowledge is evidenced by the fact that it is the only non-professional subject that is required in most dental schools. The aim is to impart such information in chemistry as is necessary to the intelligent dentist. At the same time any who wish to pursue the study further than is required of every graduate may do so by special arrangement.

During the second year this preliminary training in chemistry is followed by lectures, recitations, and laboratory work in dental chemistry. The metals, with their alloys and salts as used in dentistry, the bones and the teeth, the saliva, and the chemistry of the mouth are carefully studied. The high importance of the many applications of chemistry to the dental profession is fully recognized.

PHYSIOLOGY

The course in physiology is given throughout the latter half of the first year. It consists of five recitations, two lectures, and three conferences for every student each week, the preparation of a technical written paper, and extra demonstrations.

In the recitations, familiarity with the substance of an assigned text-book and with the Syllabus is required. The lectures set forth the principles of general physiology, and suggest some of its relations to the allied sciences, especially anatomy. The conferences give volunteers opportunity to become familiar with the literature on interesting physiological topics, which are then presented briefly in written reports and freely discussed by the class. Record both of the attendance and of the quality of the work done in the recitation-room will be kept, and, with the conference, will help to determine the standing of the student in the department. In addition, a three-hour written examination covering the entire scope of the year is held at the completion of the work, besides important subsidiary written examinations monthly.

By thus concentrating attention upon physiology during an adequate period, it is hoped that a thorough and indispensable grounding in the functions of the normal human organism will be acquired. Advanced work in physiology will be provided for competent students, by special arrangement with the head of the department, the constant aim being to adapt the labors of each student both to his needs and to his capabilities.

HISTOLOGY

The subject of histology covers the first half of the first year. The work during the first half of the allotted time will

be identical with that of the students in the Medical School. This part of the subject covers the study of the elementary tissues, treated comprehensively, beginning with their origin in the embryo. Dental histology will be taught during the second year. In this connection particular attention will be given to the study of the minute anatomy of the tooth. The development of the teeth will also receive careful treatment. A training which gives the student a knowledge of the origin and history of the dental germ lays a suitable foundation for the dentist.

The department is equipped with microscopes which, on the payment of a small fee, will be at the service of such as cannot furnish instruments of their own.

OPERATIVE DENTISTRY

In operative dentistry the instruction is both didactic and clinical. Lectures are given covering the whole field, familiarizing the student with all known methods, the conditions under which different filling materials are used, and the most approved manipulation of the same. Many lectures are followed by clinics before divisions of the classes, where attendance is obligatory. By this means every detail of the operation is impressed upon the mind of the student. Great emphasis is placed upon the preparation of cavities for filling. Instruction is further given concerning the pathological conditions of the mouth and the treatment of the same, exposed pulps, inflamed pulps, dead pulps, abscesses, inflammation of the peridental membrane, and allied subjects. Special attention is given to the preparation of cavities for porcelain filling, and the manipulation of the same. Prophylaxis also is taught, under improved systematized methods.

OPERATIVE TECHNICS*

The technical laboratory is situated on the lower floor, and is exceptionally well lighted from three sides. It is equipped with benches having lock drawers for each student, and has power lathe and other implements for convenient use.

* NOTE.—The operations in the technical departments require a very large number of natural teeth, and a sufficient supply is sometimes difficult to get. It will therefore be to the interest of students if they will bring with them all the extracted teeth they can obtain.

Instruction in this course will be by lectures, illustrated by models and drawings, and by practical work on the part of the student. The student's work will include the study of the forms of teeth, with carving in ivory; study of the position and form of pulp chambers and canals, with dissection of teeth; proper methods of treating and filling pulp canals, with operations on extracted teeth, porcelain inlay work, with practical examples, also proper methods of forming cavities for filling, and the manipulation of all filling materials, will be included.

DEPARTMENT OF CROWN AND BRIDGE WORK

This department is situated on the third floor of the building in a large, well lighted room, equipped with eighteen chairs, casting machines, electric motors, electric furnaces for porcelain, compressed air and a large general work bench, fitted for stoves, blow pipes and bunsen burners. Work benches with individual lockers are placed around three walls of the room where the Juniors make their specimen cases under a corps of competent instructors.

In this course the student is prepared by a series of lectures covering all branches of Crown and Bridge work, and is then taken directly into the Laboratory where he is obliged to make suitable specimens on an anatomically articulated model.

The specimen work is all done during the Junior year, and prepares the student for the practical work of the Senior year.

In the Senior year the student is afforded ample opportunity for practical work from diagnosis to the completion of cases of all kinds.

CLINICAL DENTISTRY

The method of instruction in clinical dentistry is by clinical lectures to the students of each class, accompanied by practical demonstration of various operations on the teeth and neighboring tissues.

Ample opportunity for work in practical operative dentistry is furnished in this department, and the student, by actual practice, receives training in the various dental operations, and in the diagnosis and treatment of diseased conditions of the mouth and teeth,

PROSTHODONTIA

The instruction in prosthodontia consists of a graded course of didactic lectures to the entire class, illustrated by models and diagrams, on the nature, properties, and manipulation of the various materials used in making artificial dentures, crowns, and bridge-work, preparatory to, and in harmony with, the laboratory work in prosthetic dentistry. These lectures extend through the three years of the course.

PROSTHETIC DENTISTRY

Particular attention is given to practical manipulation of vulcanite, celluloid, aluminum, and cast metal, for dentures; to gold-plate work, to preparation of plate for continuous gum and the application of continuous gum to crown and bridge work, as well as the construction of gold crowns and bridges. The natural form, color, and arrangement of the teeth, together with the entire range of procedure, from taking the impression to the completion of the case and its proper adjustment in the mouth, are thoroughly demonstrated.

ORTHODONTIA

The department of orthodontia offers two courses of lectures, dealing with the subject from an eclectic standpoint. The Junior year is devoted to the theory of normal and malocclusion, history, diagnosis, etiology, technique and uses of appliances, continuing in the Senior year with the practical application of the principles of orthodontic procedure to the different classes of malocclusion and to actual cases. The lectures are illustrated by charts and lantern projections and demonstrated on an adjustable model of heroic size, on which can be shown, to the entire class, normal occlusion in all its aspects, as well as any possible cases of malocclusion. Four hours a week in the Senior year are given to clinical work. Each student is required to conduct at least one case, doing all of the work under the instruction and supervision of the professor and an adequate corps of instructors. A consultation service has been established for the benefit of

graduate dentists, through which the advice of this department can be obtained in the conduct of private cases.

PHARMACOLOGY

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises, twelve hours a week throughout the second half-year. Especial attention is given to the physiological action of drugs in its relation to their therapeutical application, and to the relation always existing between therapeutics and physiological and pathological laboratory work. The laboratory course is designed to familiarize the student with all medicinal preparations and processes, and consists of exercises in which the class in sections is led to this result practically.

Prescription writing and the metric system will receive careful attention. Such of the recent additions to *materia medica* as are deemed worthy will be properly considered.

PATHOLOGY AND BACTERIOLOGY

The subjects of pathology and bacteriology will be considered together. This method permits showing the relation of bacteria to the disease processes which they produce. The work will consist of lectures, required laboratory work, and demonstrations. The student is made acquainted with the bacteria of the mouth, and is required to cultivate and study the important organisms. He is expected to carry out experiments to demonstrate the production of artificial caries. The subject of general pathology will be thoroughly covered. The special pathology of the mouth, and of the respiratory and intestinal tracts, will be given particular attention. Inflammation, especially the infectious types, among which are the lesions produced by the pyogenic bacteria, will be carefully considered. The process of repair in soft tissues and bone, and tumors of the mouth and face, are studied from sections of human and experimental lesions, and illustrated by demonstrations of gross specimens. In connection with the study of infectious processes, the specific bacteria will be cultivated and studied. Diseases of the circulatory system are illustrated by lectures and gross demonstrations. The methods of

sterilization and their relative efficacy are practically studied, and tests are made of a large series of antiseptic and disinfectant substances.

The pathological and bacteriological department of the School occupies over four thousand square feet of floor space, with a frontage of one hundred and sixty feet. It is excellently lighted. The laboratory furnishes accommodation for one hundred students, and is supplied with all the materials necessary for thorough work.

THEORY AND PRACTICE OF DENTISTRY

The instruction in the theory and practice of dentistry is designed to teach the most advanced scientific discoveries in relation to this art.

It will include such subjects as the action of mouth bacteria, diseases dependent upon dental lesions, dental prophylaxis, oral hygiene, and the ethics of dental practice. The course will be arranged to harmonize with and to supplement the work of the clinical department.

SURGERY

The course in surgery consists of a systematic series of lectures covering its principles. These lectures explain the fundamental facts which should be thoroughly understood by all students who propose to treat any portion of the human body. The lectures are not limited to surgery of the mouth, although especial attention is given to this part of the subject, but are intended to give the dental student a sound knowledge of surgery in general.

Asepsis and anesthesia are minutely discussed, and practically demonstrated in the infirmary, in conjunction with the Professor in Operative Technics and Anesthesia. The student is carefully instructed in the administration of ether and of nitrous-oxide gas. In addition to the daily instruction, one morning in each week is devoted wholly to this work, the class being divided into sections. At this weekly demonstration, cases are presented exemplifying the choice of an anesthetic in the particular case. The danger signals of anesthesia are

considered, and the proper treatment explained. Local anesthesia receives careful attention, and its limitations are pointed out.

The technic of aseptic and antiseptic methods in dental work is thoroughly explained, and shown in connection with the demonstrations of anesthetics.

ANESTHESIA AND EXTRACTION

The extracting room, a well-lighted apartment, is supplied with all needful instruments and appliances for extracting teeth and for the performance of the simpler operations in surgery. Ample waiting rooms are adjacent, and also rooms for the care of patients after anesthesia. Administrations of nitrous-oxide gas and ether are made daily. The room is at all times under the personal supervision of the Instructor in Anesthesia.

Requirements

FOR ADMISSION TO THE FIRST-YEAR CLASS

Candidates are admitted in two ways:

1. By credentials.
2. By examination.

1. Admission by Credentials

Graduates of approved colleges or universities, graduates of approved high schools, and students holding Regent's Certificates of the State of New York, are admitted without examination. Candidates west of New York may present full statement of their record in the courses pursued, for consideration by the Committee on Admission.

2. Admission by Examination

Candidates for admission by examination must have received adequate preparation in certain subjects falling in two groups, known respectively as the Required and the Elective Group. A unit represents a year's study in any subject in a secondary school, representing approximately a quarter of a full year's work. Fourteen units are required for admission. A student who has failed in not more than five units may be admitted subject to conditions which he must make up before beginning the studies of the second year.

The Required Group

Elementary English, 3;
An Elementary Foreign Language, Ancient or Modern, 2;
Elementary Physics, 1;
Algebra, $1\frac{1}{2}$;
Plane Geometry, 1.

Candidates are required to present all the subjects of the Required Group, and a selection of subjects from the Elective Group, aggregating $5\frac{1}{2}$ units, according to the value indicated below.

The Elective Group

ELEMENTARY

Greek, 2	Zoology 1
Latin, 2	Geology or Geography, 1
French, 2	Mechanical Drawing, 1
German, 2	Freehand Drawing, 1
History, 1	Shop Work, $\frac{1}{2}$ to 2
Chemistry, 1	Economics, $\frac{1}{2}$
Botany, 1	

INTERMEDIATE

Latin, 1	German, 1
French, 1	

ADVANCED

Greek, 1	History
Latin, 1	Algebra, $\frac{1}{2}$
French, 1	Trigonometry, $\frac{1}{2}$
German, 1	Solid Geometry, $\frac{1}{2}$

Detailed information concerning the amount and character of the work required in preparation will be sent on application.

ADVANCED STANDING

Students who have taken courses in other accredited dental schools are admitted to advanced classes upon presenting satisfactory evidence that they have passed the examinations required for the class they desire to enter.

Students presenting evidence of a course equivalent to the course in general chemistry given in the first year are allowed to anticipate the subject upon passing the fall examinations.

PROMOTION

Students who have passed a majority of the examinations of the first-year class, and all entrance conditions, may be promoted to the second-year class. Students who have passed all the first-year and a majority of the second-year examinations may be admitted to the third-year class.

GRADUATION

Candidates for the degree of Doctor of Dental Medicine must have fulfilled the following minimum requirements:

1. They must present a certificate that they are twenty-one years of age and of good moral character.

2. They must have attended at least three full courses of lectures in some accredited dental school, the last of which shall have been at this School, and no two courses in the same twelve months.

3. They must have passed all the examinations required, and have satisfied the professors of clinical and prosthetic dentistry of their ability to meet satisfactorily the requirements of the profession.

4. They must have satisfactorily dissected under the direction of a demonstrator of anatomy.

5. They must have paid all fees.

CHANGE OF REQUIREMENTS

The Faculty reserve the right to change all requirements without further notice.

HONORS

Students who have attended three full courses of lectures at this School and have attained an average of ninety per cent. in their examinations shall be eligible to "*summa cum laude*"; and students who have attained an average of eighty per cent. shall be eligible to "*cum laude*" in connection with the degree received.

STANDING AND CERTIFICATES

At the end of the session a certificate of his standing for the year is sent by mail to each student. No marks will be sent or credit given to any student who is in arrears with the Bursar.

EXAMINATIONS

There are two periods of examination held each year in the school building. Examinations are in writing, and are held at the close of the course in the spring, and previous to the opening of the regular course of lectures in the fall.

The spring examinations are for:

- (a) Students commencing the study of dentistry.
- (b) Promotion.
- (c) Graduation.

The fall examinations are for :

- (a) Students commencing the study of dentistry.
- (b) Removal of conditions in :
 1. Previous entrance examinations.
 2. The first-year course.
 3. The second-year course.

Students intending to take the fall examinations (other than entrance) *are required* to notify the Secretary on or before August 30.

The fall examinations for the removal of conditions (other than entrance) will commence Monday, September 6, 1915, at 10 A.M. A detailed list of the subjects in which examinations are given, with the day and hour of each, will be mailed with the results of the previous examinations.

REGISTRATION AT EXAMINATIONS

In each examination (except those for entrance) students who fail to sign the registration blank provided for the purpose shall receive no credit for that examination.

The examinations in course are as follows :

EXAMINATIONS

First Year. *Finals* in Anatomy, Physiology, General Chemistry, Histology, and Operative Technics.

Progress in Prosthetic Dentistry and in Prosthodontia.

Second Year. *Finals* in Materia Medica, Pharmacology, Dental Chemistry, Pathology, Bacteriology, and Dental Histology.

Progress in Operative Dentistry, Clinical Dentistry, Orthodontia, Prosthetic Dentistry, Prosthodontia, and Crown and Bridge Work.

Third Year. *Finals* in Oral Surgery, Orthodontia, Theory and Practice, Operative Dentistry, Clinical Dentistry, Prosthetic Dentistry, and Prosthodontia, and Crown and Bridge Work.

TEXT BOOKS

The first book mentioned is preferred as a text-book, the others being recommended as collateral reading.

- Anatomy.**—Gray, Weisse, Quain, Morris, Cunningham, Solatta, McMurrich.
- Bacteriology.**—Abbott, Woodhead, Sternberg.
- Chemistry.**—Simon, Witthaus, Remsen Syllabus of Qualitative Analysis, Mitchell's Dental Chemistry.
- Crown and Bridge Work.**—Goslee's Crown and Bridge Work, Turner's American Text Book of Prosthetic Dentistry.
- Dental Histology and Microscopy.**—Syllabus, Stohr's Histology, Tome's Dental Anatomy (latest edition).
- Dental Science and Operative Dentistry.**—Kirk's Operative Dentistry, Garretson's Oral Surgery, Black's Dental Anatomy, Weeks's Operative Technics, American System of Dentistry, Harris's Practice of Dental Surgery, Taft's Operative Dentistry. Winter, Exodontia (Extraction of Teeth).
- Hygiene.**—Egbert's Hygiene and Sanitation.
- Materia Medica and Therapeutics.**—Hare, Sollman, Cushny Thornton's Dose Book and Manual of Prescription Writing.
- Medical Dictionary.**—Dunglison.
- Orthodontia.**—Malocclusion of the Teeth, Angle (7th edition); Orthodontia, Guildford (4th edition); Internal Anatomy of the Face, Cryer.
- Pathology.**—Syllabus, Miller's Micro-Organisms of the Human Mouth, Burchard's Dental Pathology.
- Physiology.**—Syllabus, Dearborn's Text-Book of Physiology, Howell, Landois, Verworn, Schäfer, Morat, Hutchinson.
- Practice of Surgery.**—American Text Book, Marshall's Injuries and Surgical Diseases of the Jaws, International Text-book of Surgery.
- Prosthetic Dentistry.**—Essig's American Text-book of Prosthetic Dentistry, Richardson's Mechanical Dentistry, Goslee's Crown and Bridge Work, Gilbert's Vulcanite and Celluloid.

FEES AND EXPENSES

A matriculation fee of *five dollars* is payable each year at the time of registration.

A charge of *one hundred and fifty dollars* for tuition is payable in advance on or before October 10. If not paid before November 1, there will be an additional charge of *five dollars*.

If desired, the tuition may be paid in two instalments, in which case an additional charge of five dollars is made, and the fees are then paid as follows:—

First payment:— Five dollars for matriculation fee and seventy-five dollars on account of the tuition, a total of *eighty dollars*, payable at the beginning of the first semester.

Second payment:— Seventy-five dollars, the balance of the tuition, and five dollars, the additional charge, a total of *eighty dollars*, payable at the beginning of the second semester, or before February 1.

There is no charge for laboratory supplies. Anatomical material will be furnished at cost.

No student will be admitted to the exercises of the first half-year who has not paid his matriculation fee and at least one-half the tuition, and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the School have no claim for tuition paid.

Students who have failed twice in a subject are required to pay a fee of five dollars for each subsequent examination in that subject.

POST-GRADUATE FEES

Post-graduate fee for graduates of other schools . . .	\$150.00
Single course	50.00
Post-graduate fee for graduates of this School . . .	60.00
Single course	30.00
Anatomical material	at cost

The Bursar of the College will be at the School Monday, Wednesday, and Friday, 2.30 to 5.00 P.M., Tuesday and Thursday, 9 A.M., to 12 M.

There are no scholarships connected with the School.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, heat, and light, can be obtained in the vicinity of the School at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

OUTDOOR DEPARTMENT**Clinical Dentistry**

For many years it has been the custom of the authorities of this School to furnish to certain charitable and penal institutions qualified dentists for the purpose of alleviating cases of actual suffering. Applications for an extension of this service should be made to E. A. Johnson, D.M.D., Department of Clinical Dentistry, Tufts College Dental School, Boston, Mass.

Prosthetic Dentistry

In a manner similar to the above it has been the custom of the authorities of this School to furnish to the inmates of certain institutions for the aged, at the nominal charge of the cost of materials, artificial teeth and appliances. Institutions desiring to avail themselves of the privilege should apply to Walter E. Farris, D.D.S., Department of Prosthetic Dentistry, Tufts College Dental School, Boston, Mass.

STATE BOARD EXAMINATION

Students shall not take a State Board Examination in Dentistry previous to the time of final examinations of the third year, without written permission from the Secretary of the Dental School.

General Information

The Tufts College Dental School is a member of the National Association of Dental Faculties, and conforms to its rules, as well as to those of the National Association of Dental Examiners.

All students must be registered and in attendance within ten days after the commencement of lectures.

LIBRARIES

The students of this School have free access to the Dental School Library, to the Library of Tufts College, to the Boston Public Library, and to the Boston Medical Library.

The library at the Dental School is open daily from 9.00 a. m. to 5.00 p. m., except Sundays and holidays. This library is intended to provide *text books for reference*, and the latest editions of all text books used in the School are furnished. These cannot be taken from the Reading Room. In addition, the library contains a large number of reference books in general medicine and general surgery, and in all special branches of each. These works are loaned to the student free of charge, and can be taken out. Files of recent dental journals are a valuable addition to the school library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of medical works in existence. It contains not only bound volumes of every important book in medical literature, but also a very extensive collection of monographs and pamphlets on special subjects. All the leading medical journals are on file for inspection. The Boston Medical Library extends its privileges, under certain conditions, free of charge to students of this School. Its rooms are open daily from Oct. 1 to May 31, from 9.30 A. M. to 10.00 P. M., except Sundays and holidays. The hours on Saturdays are from 9.30 A. M. to 6 P. M.

SESSIONS OF THE SCHOOL

The annual course of lectures begins on the last Wednesday in September of each year, and continues until the last Wed-

nesday in May. The annual course of lectures for 1915-16 will commence Wednesday, September 29, 1915, at 3 p.m.

VACATIONS

There are no exercises at the School during three days at Thanksgiving, two weeks at Christmas, and the week beginning April 5, nor upon legal holidays.

APPLICATIONS

Students who intend to enter the School for the first time must obtain from the Secretary an application blank, which they are required to fill out and return to him. Application blanks will be mailed upon request.

REGISTRATION

Registration is required of all students, each year. Registration for the Session 1915-16 will commence Wednesday, September 6, and will close Saturday, October 9, 1915.

Registration is conducted at the school building only.

ANNOUNCEMENT

Requests for the annual catalogue, and all other communications relating to the business of the School, should be addressed to the Secretary, FRANK E. HASKINS, M.D., Tufts College Dental School, 416 Huntington Ave., Boston, Mass.

THE
BROMFIELD-PEARSON
SCHOOL

The Bromfield-Pearson School

BOARD OF INSTRUCTION

HERMON CAREY BUMPUS, Ph.D., Sc.D., LL.D., PRESIDENT

GARDNER C. ANTHONY, A.M., Sc.D., DEAN

Professor of Technical Drawing

SAMUEL C. EARLE, A.M.

Professor of English

CONRAD A. ADAMS, B.S.

Instructor in Mechanic Arts

GEORGE F. ASHLEY

Assistant Professor of Technical Drawing

ALEXANDER DILLINGHAM, A.M.

Assistant Professor of Mathematics

MERRILL C. HILL, A.M.

Instructor in Modern Languages

The Bromfield-Pearson School

The Bromfield-Pearson School is intended to meet the wants of young men whose preparation for an Engineering course may be partially deficient in one or more of the required branches, but whose practice and experience in the applied part of Engineering may qualify them to pursue college work while making up these deficiencies. By this means an engineering education is made possible to those who may have been deprived of the opportunities for obtaining the necessary preparation, or who may have allowed considerable time to elapse between the high school and the college course. A mature mind, industrious habits, and a keen appreciation of the value of the higher education in Engineering are essential qualifications for engaging in this work.

As it is the intention of the Trustees to limit the membership to those earnest and somewhat mature students who cannot afford the time ordinarily required in the fitting school, candidates will not be received from manual training and high schools.

ADMISSION

Students intending to join the School must obtain from the Dean an application blank, which they are required to fill out and return. On receipt of this statement they will be informed as to the conditions of entrance and the program of studies which it will be possible to pursue.

REGULATIONS

Students are subject to all the rules governing members of the College.

All preparatory work must be completed during the year, as no student will be admitted to the School for more than one year.

Students admitted to college classes will be required to obtain a somewhat higher per cent. than the minimum requirement for engineering students.

On the satisfactory completion of the preparatory work students will be given a certificate of admission to the College. They will also receive credit for college work which may count toward a degree.

The President and the Dean have final authority concerning admission, promotion, and discipline.

EXPENSES

The tuition fee is one hundred and fifty dollars a year.

A registration fee of five dollars is charged each entering student, and is payable at the time of registration.

No part of the tuition fee will be refunded to pupils who for any reason withdraw from the School before the close of the term for which the fee is paid.

Payment of tuition, room rent, and other charges, in all departments of the College is made in advance for each half-year, on or before November first and March first, but a payment of fifty dollars on the bills due November first will be required of all students on or before October first.

The cost of table board is from \$4.00 to \$5.00 per week. Furnished rooms may be had at \$1.50 or \$2.00 a week. Other expenses vary with the economy of each student. Students living in the college dormitories furnish their own rooms.

The following estimates represent the fixed annual expenses:—

Tuition	\$150.00	\$150.00
Half-room rent	20.00	91.00
Board, \$4.00 to \$5.00 a week (36 weeks) . .	144.00	180.00
Physical training		15.00
Books, instruments, and supplies	15.00	25.00
Total	\$329.00	\$461.00
Registration-fee, for entering students		\$5.00

For other information address GARDNER C. ANTHONY, Dean of the Bromfield-Pearson School, Tufts College, Mass.

The Harpswell Laboratory

INSTRUCTORS

J. STERLING KINGSLEY, Sc.D.

Director, and Professor of Biology, University of Illinois

HERBERT V. NEAL, Ph.D.

Assistant Director, and Professor of Zoology, Tufts College

In 1898 summer instruction in biology was given at South Harpswell, Maine, and in 1901 the College erected a small laboratory at that point, enlarging it in 1902. The laboratory remained under the exclusive control of Tufts College until 1913, when it became incorporated under the laws of the state of Maine and was put in charge of ten trustees representing Tufts College, The Wistar Institute, Harvard, Columbia, Princeton, Johns Hopkins, New York, Wisconsin, Chicago, and Illinois Universities.

The location of the laboratory is admirably adapted for biological research, since the fauna of Casco Bay is extremely rich. Over fifty papers have been published based on researches carried on in the laboratory. The laboratory is equipped with boats, dredges, glassware, apparatus, and reagents, for study on the lines of anatomy and embryology. There is also a small library of the most important works.

South Harpswell is two hours by steamer from Portland. It is at the extremity of a narrow peninsula ten miles in length, and has a cool climate. There are several hotels and boarding houses, where board and rooms may be had at five dollars a week and upward.

The Harpswell Laboratory will be open free during the summer of 1915, for research work only, under the direction of Drs. KINGSLEY and NEAL.

For circulars and other information concerning the Harpswell Laboratory, inquiries should be directed to PROFESSOR J. S. KINGSLEY, Urbana, Ill., or to PROFESSOR H. V. NEAL, Tufts College, Mass.

DEGREES AND HONORS

1913-1914

Fifty-Eighth Annual Commencement

June 17, 1914

HONORARY DEGREES CONFERRED

Doctor of Laws

Samuel Walker McCall

Doctor of Science

Frank Dawson Adams

Doctor of Literature

Winston Churchill

Doctors of Divinity

William Harrison Morrison

Jabez Thomas Sunderland

DEGREES CONFERRED IN COURSE

Bachelors of Arts

Donald Kenneth Campbell (<i>cum laude</i>)	James Ernest Kindred
Russell Lee Davison	Francis Ayer Maulsby (<i>summa cum laude</i>)
John Walter Dole (<i>cum laude</i>)	Clarence Dean Prescott
Walton Shepard Hall (<i>summa cum laude</i>)	Clinton Lee Scott

Bachelors of Science

Arthur Dermont Bush, M.D.	Clarence Schlayer Powers
Ethel Hazel Fallis	Percy Maynard Proctor
Archibald Joseph Godfrey (<i>cum laude</i>)	William Millgrove Strong (extra ordinem as of the Class of 1913)
Clarence Preston Houston	Leon Josiah Sturtevant
Frederick Wadsworth Porter	

Bachelors of Science in Chemistry

Warren Rufus Chandler	Harold Richardson Savage
Frederick Sylvester Cosgrove	Henry Edward Tower
Arthur Greenbaum	Nelson Webster Turner
Henry Philip Nelligan	Francis Dyer Whittemore

Bachelors of Science in Civil Engineering

John Edward Gurvin	James Joseph Lawlor
William Davis Henderson	Joseph Albert Monighan
William Joseph Hurley	George Ludovic Risegari
Henry Olin Jackson (<i>cum laude</i>)	Max Silverman
William Henry Kearns	Jacob George Sanerib
Timothy Justin Kett	Michael Joseph Tegan, Jr.

Bachelors of Science in Structural Engineering

Porter Sheldon Abbott	Edward Lester Marshall (<i>cum laude</i>)
Walter Roger Avery	Michael Joseph Mastrangelo
Perley Fay Ayer (<i>cum laude</i>)	Carroll Charles O'Neill
Frederick William Ford, Jr.	Perley Augustus Rice
Alfred Webster Hayward	Josiah Baldwin Rutter (<i>summa cum laude</i>)
Ralph Weston Hill (<i>magna cum laude</i>)	Roland Grover Stafford (<i>magna cum laude</i>)
Harrison Shattuck Kendall (<i>cum laude</i>)	Howard Haven Terhune (<i>magna cum laude</i>)

Bachelors of Science in Electrical Engineering

William Joseph Bennett	Everett Austin Geer (<i>summa cum laude</i>)
Carlton Warren Ellms	Walter Leonard Kelley
James Leatherbee Faden (<i>magna cum laude</i>)	Everett Burton Miller
Clarence Wardwell Foss (<i>magna cum laude</i>)	Kaler Alfred Perkins
Joseph Allan French (<i>magna cum laude</i>)	Harold James Power (<i>cum laude</i>)
	Joseph Adams Prentiss
	Harold Southwood Ramsay

Bachelors of Science in Mechanical Engineering

Fred Cecil Eastman (<i>magna cum laude</i>)
Roy Conway Sanborn
Arthur David Stewart (<i>magna cum laude</i>)

Bachelors of Science in Chemical Engineering

Carl Oscar Carlson	Thomas Arthur Shea
Francis O'Meara (<i>cum laude</i>)	Joseph Daniel Shiels

Bachelor of Sacred Theology

Arthur Elwin Wilson

Doctors of Medicine

Carl Edward Allison	Hormidas Homer LeClair
William Laurence Anderson	Harry Benjamin Levine
Benjamin Franklin Andrews (<i>cum laude</i>)	Charles Leverne MacGray (<i>cum laude</i>)
Blanche Louise Atwood (<i>cum laude</i>)	William Angus MacIntyre
Maurice Edward Barron	William Henry MacKay
Clarence Pennell Baxter	*Harold Edward Marsh (extra ordinem as of the Class of 1913)
Maurice George Berlin (<i>cum laude</i>)	John Edward McCabe (<i>cum laude</i>)
Myer Isadore Berman	Jennie Grace McIntosh (<i>cum laude</i>)
William Edward Browne (extra ordinem as of the Class of 1913)	Hyman Bernard Meyers (<i>cum laude</i>)
Patrick Vincent Brunick	Joseph William Patrick Murphy
Richard John Ridgway Caines	Thomas Joseph O'Brien
Robert John Carpenter	Stanley Hart Osborn
Roger Irving Clapp, D.M.D.	Edgar Sayles Potter (<i>cum laude</i>)
Henry Leon Clow	Boris Rapoport
Milton Michael Cohen (<i>cum laude</i>)	Albert Orville Raymond
Oscar Francis Cox, Jr.	Harold Roland Record
Henry Levi Davis	William Francis Regan
Isadore Albert Finkeltstein (<i>cum laude</i>)	Samuel Alexander Robins
Benjamin Lawrence Freeman (<i>cum laude</i>)	Enrique Rodriguez D. (<i>cum laude</i>)
Maurice Arthur Gilbert	John Andrews Rogers
Fred Clarke Gunter	Martha Robert De Romeu (<i>cum laude</i>)
Nathaniel Jewett Heywood	Joseph Michael Scanlon
Fred Henry Hynes (extra ordinem as of the Class of 1913)	Louis Screbriany Silver
Herbert Lester Charles Johnson (<i>cum laude</i>)	Frederick Artemas Simonds
Guy Walter Stanley Jones	Edwin Eugene Smith (<i>cum laude</i>)
Thomas Paul Jones (<i>cum laude</i>)	William Francis Smith
Franklin Harrison Killam	Lucy Margaret Starr
Drue King	Elizabeth Ann Sullivan (<i>cum laude</i>)
George Klein (<i>cum laude</i>)	Joseph Matthew Wadden
Elie Joseph LaLiberte	Patrick Henry Walsh
	Frank Edward Wheatley, A.B.
	LeRoy Albert Woodward, Ph.G. (<i>cum laude</i>)

_*The degree of M.D. and D.M.D. cannot be given to minors.

Doctors of Dental Medicine

Eugene Earle Bachelder	Philip Sheridan McGann
Roger Parker Beckman	Frederic William Thomas McKinnon
Percival Lincoln Bonnell	Ralph Henry Miller
Arthur Jacob Brass	Marks Mitchell
Harold Walter Brown	William Lawrence Murphy
Martin Charles Canarie	*William Ahern O'Brien (extra ordinem as of the Class of 1913)
John Leo Carroll	William Thomas O'Neil, Jr.
Joseph Howarth Clifton	Harry Pearlín
Harold Eugene Danforth	John Gabriel Perman (<i>cum laude</i>)
Joseph Michael Desmond	Edwin William Peterson
John Patrick Eagan	Helen Chic Pierce
*Adolph Gustavus Ekdahl (extra ordinem as of the Class of 1912)	Gordon Leslie Plummer
Leon Walter Everson	Harry Eugene Ray
Ernest Morton Fisher	Joseph Augustine Regnier
Edward Ambrose Fitzpatrick	Robert Raymond Rich
Max Ginns	Henry Roberts
Ralph Henry Griffin	James Henry Rooney
Hayward William Gussman	Janet Mary Rowlandson
Harry Osborne Harding	Melville Alexander Sanderson
John Edward Herlihy	Emmanuel Scher (<i>cum laude</i>)
Guy Lloyd Johnson	Henry Robert Sibley
Robert Kidder Johnson	Lawrence Milton Staples
Joseph Michael Kelley	Joseph Edward Sullivan
Victor Joseph Kingsley	Joseph William Sullivan
Maurice Lan	Joseph Armand Tartre (<i>cum laude</i>)
John Warren Laurie	*Thomas Herbert Veale (<i>cum laude</i>) (extra ordinem as of the Class of 1913)
Leo Himan Lavien	Edmund Martin Webb
Minott White Lewis (<i>cum laude</i>)	Frederic Isidor Weene
Samuel Maker	Floyd Elbert Williams
Joseph Aloysius Mann ng, A.B. (<i>cum laude</i>)	John Chester Wilson
Harold William Mayo	Henry Isadore Yale

Masters of Arts

Ellen Marie Greany (Economics)
 John Louis Charles Keegen (History and English)
 Forrest Sumner Lunt (English)

Master of Science

Edward Parkhurst Phelps (Chemistry and Biology)

*The degree of M.D. and D.M.D. cannot be given to minors.

Jackson College for Women

Bachelors of Arts

Margaret Buck (<i>summa cum laude</i>)	Anne Leslie Hooper (<i>cum laude</i>)
Isabella Cameron (<i>magna cum laude</i>)	Frances Kagan
Gladys Lydia Cobb	Annette Bassford MacKnight
Edith Elizabeth Cochran (<i>cum laude</i>)	Ella Hazel Macy (<i>magna cum laude</i>)
Gertrude Weston Dyer	Eleanor Margaret Scamman (<i>magna cum laude</i>)
Emily Eveleth	Jeanette Irene Schofield
Helen Elizabeth Hearsey (<i>magna cum laude</i>)	Aurilla Myrtle Shepard

Bachelors of Science

Mary Elizabeth Dailey
Emma Hulen

Associate in Arts

Agnes Térésa Dubuc

Honors

Margaret Buck (English and German)
Helen Elizabeth Hearsey (English)
Eleanor Margaret Scamman (English)

Honorable Mention

Isabella Cameron (English and German)
Edith Elizabeth Cochran (Latin)
Anne Leslie Hooper (Biology)
Ella Hazel Macey (English and Music)

Commencement Parts

Francis Ayer Maulsby, Cand. A.B.: "Shakespeare's Ideal Hero of Tragedy."
Joseph Aloysius Manning (A.B., Boston College), Cand. D.M.D.: "Dental Progress of a Half Century."
Josiah Baldwin Rutter, Cand. B.S.: "Concrete in Construction Work."
Margaret Buck, Cand. A.B.: "Tennyson and the Table Round."
Richard John Ridgway Caines, Cand. M.D.: "The Nervous System in Relation to Subjective Development."
Arthur Elwin Wilson, Cand. B.D.: "Religion Again Triumphant."

Honors

Fred Cecil Eastman (Mechanical Engineering)	Walton Shepard Hall (English and German)
James Leatherbee Faden (Electrical Engineering)	Ralph Weston Hill (Structural Engineering)
Clarence Wardwell Foss (Electrical Engineering)	Francis Ayer Maulsby (Mathematics and English)
Joseph Allen French (Electrical Engineering)	Josiah Baldwin Rutter (Structural Engineering)
Everett Austin Geer (Electrical Engineering)	Arthur David Stewart (Mechanical Engineering)
Howard Haven Terhune (Structural Engineering)	

Honorable Mention

Perley Fay Ayer (Structural Engineering)	Harrison Shattuck Kendall (Structural Engineering)
Donald Kenneth Campbell (Classical Archæology)	Edward Lester Marshall (Structural Engineering)
John Walter Dole (History and Public Lay)	Francis Ayer Maulsby (English and Philosophy)
Everett Austin Geer (Civil Engineering)	Francis O'Meara (Chemical Engineering)
Archibald Joseph Godfrey (History and Public Law)	Harold James Power (Electrical Engineering)
Henry Olin Jackson (Civil Engineering)	Josiah Baldwin Rutter (Civil Engineering)
Roland Grover Stafford (Civil and Structural Engineering)	

Diplomas Given Subsequent to June 17, and Prior to December, 1914

Bachelor of Science

Herbert Edmond Metcalf (Class of 1914)

Doctors of Medicine

Edwin Gordon Crosby (Class of 1914)
 Samuel Nathaniel Elkin (Class of 1914)
 Albert Joseph Grandmaison (Class of 1908)
 Robert Edwin Harney (Class of 1914)
 Bernard Charles Healey (Class of 1913)
 Joseph Alphonsus Keenan (Class of 1914)
 William Aloysius McCormick (Class of 1914)
 Emily Adelaide Pratt (Class of 1914)

Doctors of Dental Medicine

Samuel Joseph Burke (Class of 1914)
 Herrman Hanson Stahl (Class of 1914)

Awards of Prizes, 1913-1914

Scholarship of the Class of 1882

George William Angell

Scholarship of the Class of 1898

Herbert Endicott Snow

Greenwood Prize Scholarship in Oratory

Egbert William Ashford Jenkinson

Goddard Prizes in History and Public Law

Mary Eleanor Cavanaugh

Eleanor Bisbee

Herbert Moulton French

Goddard Prize in Physics

Frank Gustave Wahlen

Moses True Brown Scholarship

Harold Elliot Hadley

Alpha Omicron Pi Scholarship

Ethel Lorinda Peabody

Chi Omega Scholarship

Mary Eleanor Cavanaugh

Rhetorical Prizes

First Prize

Egbert William Ashford Jenkinson

Second Prize

Albert Walter Swenson

Third Prize

Marion Ward Raymenton

REGISTER OF STUDENTS

Department of Arts and Sciences

1914-15

[In the following list the course pursued by each student is indicated by the *Italic* letters immediately following the name. The signs used are as follows: courses leading to the degree of A.B., *ab*; to the degree of B.S., *bs*—in Civil Engineering, *ce*; in Structural Engineering, *ste*; in Electrical Engineering, *ee*; in Mechanical Engineering, *me*; in Chemical Engineering, *che*. For the first two years in the Engineering School no differentiation is made.

The third column records the home address, which is in Massachusetts unless stated to be elsewhere. The fourth column gives the address at Tufts College, unless the street is printed in *Italics*, in which case it is a part of the home address.]

Graduate School

Resident Students

ASPINWALL, FREDERICK OTTO	<i>Pawtucket, R. I.</i>	19 Fairmount St.
<i>B.S. (R. I. State), 1914 First Year Chemistry</i>		Tufts College
JOHNSON, LAURA KATHERINE	<i>Fenway, Boston</i>	<i>The Stuart Club</i>
<i>A.B. (Cornell), 1910 Second Year History and Public Law</i>		
O'MEARA, FRANCIS	<i>Brighton</i>	72 Mapleton St.
<i>B.S., 1914 First Year Chemistry</i>		
SAVAGE, HAROLD RICHARDSON	<i>Medford</i>	15 Lapham St.
<i>B.S., 1914 First Year Chemistry</i>		
STRONG, WILLIAM MILLGROVE	<i>Everett</i>	Dean, 14
<i>B.S., 1913 Second Year Economics</i>		

Special Student

BENNET, WILLIAM JOSEPH	<i>W. Medford</i>	59 Grove St.
<i>B.S., 1914</i>		

School of Liberal Arts

Senior Class

Aldrich, Lloyd Edgar	ab	Rutland, Vt.	Dean, 10
Angell, George William	bs	Syracuse, N. Y.	Θ Δ X House
Bathrick, Orrin Freeborn	bs	Tufts College	15 Emery St.
Brooks, William Gooch	bs	Dorchester Centre	Δ T House
Chapman, Wilder Adams	bs	Brighton	East, 13
Flett, James Watson	bs	Waverley	596 Trapelo Rd.
Jeffress, James Alfred	bs	West Medford	37 Lincoln St.
Kelley, Wilfred Frederick	ab	Roxbury	1 Arcadia St.
Levethan, Samuel Theodore	bs	Boston	22 N. Russell St.
MacPherson, Edmund Stow	bs	Maynard	East, 29
Magee, Joseph Vincent	bs	So. Boston	Φ Δ House
Marzynski, Philip	bs	Dorchester	9 Leroy St.
Messer, Melvin John, Jr.	bs	Somerville	West, 12
Morison, Frederick Stanley	bs	W. Somerville	East, 9
Morrison, Arthur Winchester	bs	Medford	West, 1
Orito, Joseph Chusaku	bs-bd	Hokkaido, Japan	Paige, 25
Phillips, Arthur Welch	bs	Somerville	Σ T A House
Priest, Henry Benjamin	ab	Irasburg, Vt.	Z Ψ House
Richardson, William Blaine	bs	Boston	Δ T Δ House
Tonkonow, Benjamin	bs	Meriden, Conn.	East, 33
Ward, Benjamin Alpheus, Jr.,	bs	W. Somerville	22 Milton St.

Junior Class

Allen, Windom Alpheus	bs	W. Cummington	A T Ω House
Anderson, Carl Oscar	ab	S. Manchester, Conn.	Δ T House
Barnes, Maxwell Fish	bs	W. Somerville	West, 1
Barron, Ralph Avery	bs	Wellesley Hills	Dean, 10
Brown, James Lawrence, Jr.	bs	Somerville	East, 7
Burritt, Henry Way	bs	Detroit, Mich.	A T Ω House
Crosby, Philip Barker	bs	Methuen	Θ Δ X House
Donnellan, Arthur Vincent	bs	W. Medford	30 Lincoln St.
Flagg, Frederick Potter	bs	Waltham	20 Floyd St.
Foster, Francis Joel	ab	Danbury, Conn.	Φ Δ House
French, Herbert Moulton	ab	Waltham	Δ T House
Gore, Edward Watson	ab	W. Medford	45 Brooks St.
Ingalls, Herbert Elliott	bs	Lynn	Dean, 5
Leahy, John Henry	ab	Monson	Σ T A House
Lindstol, Carl Frederick	bs	Beachmont	Σ T A House
Loomis, Samuel	bs	Bedford	Paige, 16
Lybeck, Robert Ferdinand	bs	Waverly	East, 29

Mark, George Archibald	<i>bs-bd</i>	<i>Glasgow, Scotland</i>	Paige, 18
Mark, John Nicol	<i>bs-bd</i>	<i>Glasgow, Scotland</i>	Paige, 18
Mark, Thomas Montgomery	<i>ab-bd</i>	<i>Glasgow, Scotland</i>	Paige, 18
McJannet, Donald Ross	<i>bs</i>	<i>Medford</i>	1 Curtis Place
Nellis, Aubrey Irving	<i>bs</i>	<i>Roslindale</i>	West, 9
Patterson, Richard	<i>ab</i>	<i>Morgantown, W. Va.</i>	East, 21
Phillips, Ralph Oliver	<i>bs</i>	<i>Somerville</i>	Σ T A House
Poor, Joseph Victor	<i>bs</i>	<i>Petersham</i>	Dean, 13
Reed, Everett Lenox	<i>bs</i>	<i>Somerville</i>	100 Jacques St.
Roche, Harold Francis	<i>bs</i>	<i>South Boston</i>	34 F St.
Shapiro, Frank Simon	<i>bs</i>	<i>E. Boston</i>	195 Webster St.
Smith, Richard Ilsley	<i>bs</i>	<i>Auburn, Me.</i>	Dean, 9
Spencer, Clayton Cree	<i>bs</i>	<i>Barre, Vt.</i>	West, 16
Stafford, Henry Alexander	<i>bs</i>	<i>Orleans, Vt.</i>	Θ Δ X House
Staples, Carl Weston	<i>bs</i>	<i>Everett</i>	17 Lexington St.
Starkweather, Courtney Nash	<i>bs</i>	<i>Plainfield, N. J.</i>	Δ T Δ House
Sullivan, Harry Matthew	<i>bs</i>	<i>Ayer</i>	West, 21
Swenson, Albert Walter	<i>ab</i>	<i>Medford</i>	Δ T House
Tennis, Max	<i>bs</i>	<i>Boston</i>	West, 32
Town, Cecil Benton	<i>bs</i>	<i>Boston</i>	Φ Δ House
Waldron, Arthur Scott	<i>bs</i>	<i>West Somerville</i>	East, 9
Whitney, Donald Hay	<i>bs</i>	<i>W. Somerville</i>	East, 7
Wiggin, Sidney Cushing	<i>bs</i>	<i>Roxbury</i>	Δ T Δ House

Sophomore Class

Anderson, Herbert Keith	<i>bs</i>	<i>Milford, N. H.</i>	Θ Δ X House
Ball, Leon Eugene	<i>bs</i>	<i>So. Berwick, Me.</i>	21 Chetwynd Rd.
Bisbee, John Bancroft	<i>bs-bd</i>	<i>Arlington Heights</i>	Paige, 31
Bratt, Albert Verner	<i>bs</i>	<i>Everett</i>	West, 27
Carro, Leon Julius	<i>ab</i>	<i>Revere</i>	West, 6
Collins, Harold Edward	<i>bs</i>	<i>Haverhill</i>	East, 34
Cross, Julian Richard	<i>bs</i>	<i>Hingham Center</i>	Σ T A House
Curtin, Francis Gregory	<i>bs</i>	<i>Medford</i>	93 Governor's Ave.
Davies, Roland Crocker	<i>ab</i>	<i>Tufts College</i>	72 Professors Row
Eldridge, Clarence Crocker	<i>bs</i>	<i>Natick</i>	Commons Club
Fuller, George Lester	<i>ab</i>	<i>Braintree</i>	Dean, 9
Golden, Benjamin Ira	<i>ab</i>	<i>Elkins, W. Va.</i>	Dean, 7
Hurley, Harold Francis	<i>bs</i>	<i>Malden</i>	88 Hubbard St.
Jenkinson, Egbert William Ashford	<i>bs</i>	<i>Brookline</i>	Δ T House
Jones, Herman Wentworth	<i>bs</i>	<i>W. Somerville</i>	20 Winslow Ave.
Lamont, Arthur Lindley	<i>ab</i>	<i>W. Somerville</i>	13 Conwell Ave.
Lee, Bernard James	<i>ab</i>	<i>Irashburg, Vt.</i>	Dean, 14
Marsh, Carl Alphonso	<i>bs</i>	<i>Brattleboro, Vt.</i>	East, 20

Merrow, Oscar Earl	<i>bs Salem</i>	Z Ψ House
Morison, Norman Webster	<i>bs West Somerville</i>	East, 18
Murphy, Leo Thomas	<i>bs Somerville.</i>	Σ T A House
Nixon, Alexander Clifford	<i>bs Brookline</i>	Δ T House
Penaligan, James Henry	<i>bs Winchester</i>	11 Maxwell Rd.
Poole, Joseph Ellsworth	<i>bs Dover</i>	West, 14
Proctor, William Harrison	<i>bs Jackson, N. H.</i>	Φ A House
Reed, Arthur Bryant	<i>bs Ciaremont, N. H.</i>	Δ T House
Rowe, Preston Brainard	<i>ab Winchester</i>	39 Myrtle Terrace
Ryan, Frederick Lynne	<i>bs Denair, Calif.</i>	Paige, 31
Sample, Dirrell Daniel	<i>bs Strong, Me.</i>	Φ Δ House
Sefton, Archibald Kyle	<i>bs Tufts College</i>	93 Capen St.
Smith, John Blackmer	<i>bs Williamstown, Vt.</i>	West, 16
Teele, Kenneth Robert	<i>bs San Juan, P. R.</i>	West, 8
Towne, Lester Newton	<i>bs Andover</i>	Commons Club
Watson, Barron Crowell	<i>bs Tremont, Me.</i>	East, 16
Whippen, Elbert Wilder	<i>ab-bd Kingston, N. H.</i>	Paige, 19
Whitmore, James Russell	<i>bs Mt. Morris, N. Y.</i>	Θ Δ X House
Williams, Harold Jenkin	<i>bs Quincy</i>	107 Common St.

Freshman Class

Appleyard, Archibald	<i>bs Methuen</i>	57 Broadway
Armstrong, Herbert Eustace	<i>bs Cambridge</i>	267 Windsor St.
Barbara, Charles Albert	<i>bs Port Chester, N. Y.</i>	East, 22
Bouvé, Howard Allston	<i>bs Wakefield</i>	39 Fairmount Ave.
Boynton, Edward Young	<i>bs Waco, Texas</i>	56 Westland Ave., Boston
Bresnick, Barnet	<i>bs Dorchester</i>	54 Stanwood St.
Brooks, Charles James	<i>bs Everett</i>	63 Vernal St.
Brown, William Slater	<i>bs Webster</i>	42 Pratt St., Allston
Brown, William Thomas	<i>bs Bondsville</i>	West, 18
Burns, Edward Gregory	<i>ab Taunton</i>	221 Bay St.
Cameron, Daniel Clarence	<i>bs Arlington</i>	West, 27
Campbell, Alan Bailey	<i>ab Dorchester</i>	Fast, 26
Claff, Philip Frederic	<i>bs Malden</i>	20 Bryant St.
Coddington, Philip Littlefield	<i>bs Berlin, N. H.</i>	Z T House
Coffey, Daniel Lorden	<i>ab Medford</i>	38 Touro Ave.
Cohen, Leon Sabin	<i>ab Somerville</i>	129 Sycamore St.
Colcord, Elmer Danforth	<i>bs-bd Canton</i>	Paige, 36
Collins, George William	<i>bs Medford</i>	187 Middlesex Ave.
Cooke, Arthur Burrell	<i>bs Waltham</i>	East, 8
Coussoule, Loukas Nicholas	<i>ab Sparta, Greece</i>	27 Emery St.
Cronin, George Robert	<i>bs South Boston</i>	856 E. Broadway

Davis, Philip Sidney	<i>bs</i>	<i>Somerville</i>	<i>50 Mt. Vernon St.</i>
Dillaway, Manson McKown	<i>bs</i>	<i>Wakefield</i>	<i>Francis St.</i>
Doherty, Gerald Leo	<i>bs</i>	<i>Dorchester</i>	<i>West, 19</i>
Dordoni, Arthur Peter	<i>bs</i>	<i>Bridgton, Me.</i>	<i>West, 21</i>
Ellis, William	<i>bs</i>	<i>Roxbury</i>	<i>8 Cunard St.</i>
French, Winslow Hall	<i>bs</i>	<i>Waltham</i>	<i>East, 6</i>
Friis, Jan Trap	<i>bs</i>	<i>Medford</i>	<i>235 Main St.</i>
Geddes, James Gardner	<i>bs</i>	<i>Somerville</i>	<i>88 Munroe St.</i>
Geer, James Clifford	<i>bs</i>	<i>Three Rivers</i>	<i>West, 18</i>
Given, Minott Denham	<i>bs</i>	<i>Melrose</i>	<i>147 First St.</i>
Goldberg, Bernard Isadore	<i>bs</i>	<i>Roxbury</i>	<i>39 Clifford St.</i>
Gordon, Israel	<i>bs</i>	<i>Boston</i>	<i>330 Harrison Ave.</i>
Green, Bertram Emanuel	<i>bs</i>	<i>Malden</i>	<i>390 Salem St.</i>
Hammond, Leigh Hunt	<i>bs</i>	<i>West Newton</i>	<i>17 Eden Ave.</i>
Hewitt, Earl Smith	<i>ab</i>	<i>So. Royalton, Vt.</i>	<i>Δ T Δ House</i>
Hill, Kenneth Rogers	<i>bs</i>	<i>Peabody</i>	<i>Commons Club</i>
Hunnewell, Roger	<i>ab</i>	<i>W. Somerville</i>	<i>23 Milton St.</i>
Jackson, Harold Charles LeBaron	<i>bs</i>	<i>Detroit, Mich.</i>	<i>Dean, 2</i>
Kiggen, John Augustine, Jr.	<i>ab</i>	<i>Hyde Park</i>	<i>125 West St.</i>
Kilmer, Adelbert Libby	<i>bs</i>	<i>Brookline</i>	<i>West, 23</i>
King, Paul Charles	<i>ab</i>	<i>Dorchester</i>	<i>30 Barry St.</i>
Lalor, Daniel Edward Coffey	<i>bs</i>	<i>Watervliet, N.Y.</i>	<i>East, 6</i>
Lane, Franklin Johnson	<i>bs</i>	<i>Winchester</i>	<i>37 Glen Rd.</i>
Lewis, Philip Bullard	<i>bs</i>	<i>Tufts College</i>	<i>20 Professors Row</i>
Lotz, Walter Henry	<i>bs</i>	<i>Southington, Conn.</i>	<i>East, 25</i>
McKenzie, William Forbes	<i>bs</i>	<i>Thorndike</i>	<i>West, 18</i>
McNamee, Albert Percy	<i>bs</i>	<i>Belmont</i>	<i>89 Grove St.</i>
Mendum, Willis Clark	<i>bs</i>	<i>Woburn</i>	<i>16 Arlington Rd.</i>
Messer, Theodore Powers	<i>bs</i>	<i>Somerville</i>	<i>27 Franklin St.</i>
Mohor, Albert John	<i>bs</i>	<i>Dorchester</i>	<i>9 Howe St.</i>
Morison, Trueman Greene	<i>bs</i>	<i>W. Somerville</i>	<i>2 Billingham St.</i>
Murphy, Maurice Francis	<i>ab</i>	<i>Mattapan</i>	<i>Σ T A House</i>
Nichols, Frederic Stephen	<i>bs</i>	<i>Kingston, N. H.</i>	<i>East, 34</i>
O'Keefe, David Charles	<i>bs</i>	<i>Revere</i>	<i>76 Central Ave.</i>
Olson, Wallace Bruce	<i>ab</i>	<i>Somerville</i>	<i>741 Broadway</i>
Pofcher, Joseph	<i>bs</i>	<i>Roxbury</i>	<i>40 Devon St.</i>
Pollack, Israel Jacob	<i>bs</i>	<i>Boston</i>	<i>1 Revere St. Place</i>
Porter, Russell Woods	<i>bs</i>	<i>Springfield</i>	<i>Dean, 11</i>
Pratt, Kenneth Madison	<i>bs</i>	<i>Winchester</i>	<i>15 Wildwood St.</i>
Pryor, Paul Lawrence	<i>bs</i>	<i>Beachmont</i>	<i>35 Endicott Ave.</i>
Reed, Alfred Smith	<i>bs</i>	<i>Roslindale</i>	<i>Dean, 16</i>
Robbins, Roger Sherman	<i>bs</i>	<i>E. Pepperell</i>	<i>Θ Δ X House</i>
Rogers, Harold Arthur	<i>bs</i>	<i>W. Somerville</i>	<i>39 Paulina St.</i>

Rood, George Wilson	<i>ab</i>	<i>W. Somerville</i>	<i>200 Powder House Blvd.</i>
Ruggeri, Samuel	<i>bs</i>	<i>So. Boston.</i>	<i>77 Dorchester St.</i>
Scamman, William Merrill	<i>bs</i>	<i>Lexington</i>	<i>76 Bedford St.</i>
Scott, Carroll Edward	<i>ab</i>	<i>W. Ossipee, N. H.</i>	<i>East, 19</i>
Seavey, Marden Homer	<i>bs</i>	<i>Westford</i>	<i>901 Massachusetts Ave., Cambridge</i>
Segal, Alfred Edward	<i>bs</i>	<i>Boston</i>	<i>11 Grove St.</i>
Shohet, Herman Abram	<i>bs</i>	<i>E. Boston</i>	<i>112 Marion St.</i>
Solomon, Samuel Alexander	<i>bs</i>	<i>Dorchester</i>	<i>6 Lena Park</i>
Spunt, William	<i>bs</i>	<i>Winthrop</i>	<i>Dean, 7</i>
Swartz, Jacob Hyams	<i>bs</i>	<i>Boston</i>	<i>28 Allen St.</i>
Symmes, Leland Parker	<i>bs</i>	<i>Beverly</i>	<i>Ω T O House</i>
Symmes, Marshall Wyman	<i>bs</i>	<i>Winchester</i>	<i>251 Main St.</i>
Tyler, Maurice Leslie	<i>bs</i>	<i>W. Medford</i>	<i>18 Cottage St.</i>
Warren, Lowell Alfred	<i>bs</i>	<i>Waltham</i>	<i>30 Prospect St.</i>
Weiner, Sidney Hertz	<i>bs</i>	<i>Boston</i>	<i>50 Allen St.</i>
Weisberg, Max	<i>bs</i>	<i>Boston</i>	<i>92 Waltham St.</i>
Wescott, Oliver Dunbar	<i>bs</i>	<i>Malden</i>	<i>1214 Salem St.</i>
Willey, Nathaniel Whelock	<i>ab</i>	<i>Saugus</i>	<i>41 Vine St.</i>
Winston, Frank Thomas	<i>bs</i>	<i>E. Boston</i>	<i>53 Collins St.</i>

Unclassified Students

Bartlett, Howard Searles	<i>ab</i>	<i>Roxbury</i>	<i>97 Munroe St.</i>
Davidson, Everett James	<i>bs</i>	<i>Boston</i>	<i>Dean, 5</i>
Ginty, Allan Joseph	<i>ab</i>	<i>Boston</i>	<i>75 Mountfort St.</i>
Hart, Clarence Dunbar	<i>ab</i>	<i>W. Somerville</i>	<i>35 Charnwood Rd.</i>
Olson, Gordon Wesley	<i>bs</i>	<i>W. Somerville</i>	<i>741 Broadway</i>
Pickett, Harold Lionel	<i>ab-bd</i>	<i>Lexington</i>	<i>8 Locust Ave.</i>
Potash, Philip	<i>bs</i>	<i>Boston</i>	<i>48 Billerica St.</i>
Rice, Leonard Alexander	<i>ab</i>	<i>Somerville</i>	<i>51 Avon St.</i>
Sweezey, Raymon John	<i>bs</i>	<i>Wellington</i>	<i>11 Fifth St.</i>
Yenetchi, Ivan Hyde	<i>ab</i>	<i>Scituate</i>	<i>Θ Δ X House</i>

Special Students

Rohrman, Horatio Wray	<i>Winchester</i>	<i>80 Highland Ave.</i>
<i>I. English and Economics</i>		
Wheaton, Donald Whitney	<i>Tufts College</i>	<i>17 University Ave.</i>
<i>I. History</i>		

Supplementary List

(Students present during 1913-1914, but not appearing in the catalogue)

Brooks, Charles James	<i>bs</i>	<i>Everett</i>	<i>63 Vernal St.</i>
Logiodice, Leonard Francis	<i>sp</i>	<i>So. Boston</i>	<i>40 Gates St.</i>
Mason, Harry Edison	<i>sp</i>	<i>W. Somerville</i>	<i>10 Cedar St.</i>
Olson, Wallace Bruce	<i>ab</i>	<i>Somerville</i>	<i>741 Broadway</i>
Scamman, William Merrill	<i>bs</i>	<i>Lexington</i>	<i>76 Bedford St.</i>

Theological School

SIX-YEAR COURSE

Sixth Year

Mark, George Archibald	<i>bs-bd</i>	<i>Glasgow, Scotland</i>	Paige, 18
Orito, Joseph Chusaku	<i>bs-bd</i>	<i>Hokkaido, Japan</i>	Paige, 25
Scott, Clinton Lee (A. B.)	<i>bd</i>	<i>Norwich, Vt.</i>	Paige, 34

Fourth Year

Bisbee, John Bancroft	<i>bs-bd</i>	<i>Arlington Heights</i>	Paige, 31
Mark, Thomas Montgomery	<i>ab-bd</i>	<i>Glasgow, Scotland</i>	Paige, 18

Third Year

Bisbee, Eleanor	<i>ab-bd</i>	<i>Arlington Heights</i>	Richardson, 2
Mark, John Nicol	<i>bs-bd</i>	<i>Glasgow, Scotland</i>	Paige, 18

Second Year

Colcord, Elmer Danforth	<i>bs-bd</i>	<i>Canton</i>	Paige, 36
Whippen, Elbert Wilder	<i>ab-bd</i>	<i>Kingston, N. H.</i>	Paige, 19

Special Students

Cole, Alfred Storer		<i>Buckfield, Me.</i>	Paige, 13
Smith, Isaac		<i>England</i>	Paige, 20
Wilson, Arthur Elwin (B. D.)		<i>Tufts College</i>	<i>34 Emery St.</i>

Unclassified Student

Pickett, Harold Lionel	<i>ab-bd</i>	<i>Lexington</i>	Paige, 7
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Engineering School

Senior Class

Abbott, Robert Leon	ee	West Medford	108 Sharon St.
Adams, John Harold	ee	Passaic, N. J.	Δ T House
d'Albergaria, José Soares	ee	Azores Islands	East, 12
Archibald, Harry Cameron	st e	Everett	163 Hancock St.
Armington, Ralph Loud	ee	Everett	Φ Δ House
Ball, Lester Whiting	me	Somerville	15 Melvin St.
Boothby, Everett James	ch e	Somerville	East, 26
Comee, Edgar Randolph	ce	Cliftondale	Commons Club
Danver, Alan Thurston	st e	Glenbrook, Conn.	East, 15
Eastman, Arthur Gilman	me	Townsend	Σ T A House
Eldredge, Earle Bertram	st e	So. Harwich	Σ T A House
Fiske, Warren Munroe	ee	Marblehead	Dean, 12
Fittz, Raymond Underwood	ee	Natick	Paige, 5
Fox, Erving Nelson	ee	W. Somerville	123 College Ave.
Garabedian, Carl Arshag	ch e	Dorchester Center	Paige, 30
Grupe, Howard Edwin	me	New Canaan, Conn.	Dean, 13
Hadley, Harold Elliot	ce	Cambridge	Dean, 3
Harrington, Ralph Dudley	ee	Somerville	Δ T House
Harrison, James William	ch e	East Walpole	Commons Club
Hinchcliffe, Paul George	ch e	Stoneham	8 East St.
Horn, Albert Mathias	st e	Roslindale	Δ T Δ House
Locke, Edwin Augustus	ee	Belmont	25 Somerset St.
Maguire, James Bernard	ch e	E. Boston	233 Saratoga St.
Mendelsohn, Louis Edward	me	Roxbury	West, 12
Merrithew, Francis, Marion Blaisdell	ee	Saugus	A T Ω House
Moore, Charles Edward	ee	Peabody	Z Ψ House
Moses, Eliot Brewster	ee	Waltham	Worcester Lane
Newton, Raymond Willis	st e	Dorchester	Δ T Δ House
Nicoll, George Wesley	st e	Boston	Σ T A House
Pease, Maxfield	me	Tufts College	205 College Ave.
Rourke, Francis William	ce	W. Somerville	Commons Club
Schlotterbeck, William Charles	ce	Roxbury Station, Conn.	Δ T House
Scrannage, Lawrence Emery	me	Medford	83 Dudley St.
Shorrock, John William	ce	Dorchester	39 Longfellow St.
Snow, Herbert Endicott	me	Brooklyn, N. Y.	Commons Club
Stanger, Herbert Theophilus	me	Roslindale	Dean, 12
Swan, Reuben	ce	Dorchester Centre	East, 15
Teel, Lawrence Howes	me	Salem	Z T House
Ulin, Benjamin	ch e	Dorchester	108 Glenway St.

Wagner, Paul Barr	<i>ce</i>	<i>Brooklyn, N. Y.</i>	Δ T House
Walsh, Louis Joseph	<i>st e</i>	<i>Boston</i>	19 <i>Belvidere St.</i>
Webber, Lewis Gleason	<i>ee</i>	<i>Bedford</i>	Σ T A House

Junior Class

Boss, John Harold	<i>ch e</i>	<i>Wellington</i>	18 <i>Fourth St.</i>
Brett, Roy Cuming	<i>me</i>	<i>S. Braintree</i>	Paige, 24
Claff, Elmer Louis	<i>ch e</i>	<i>Everett</i>	East, 5
Coleman, Thomas Christopher, Jr.	<i>me</i>	<i>W. Somerville</i>	29 <i>Chandler St.</i>
Cross, Ralph Upton	<i>st e</i>	<i>Worcester</i>	Δ T House
Dalton, George Alonzo	<i>ch e</i>	<i>W. Somerville</i>	West, 15
Davis, Chester Thomas Caverly		<i>Wolfeboro, N. H.</i>	Φ Δ House
Dempsey, Nelson William	<i>ch e</i>	<i>Stoneham</i>	Commons Club
Dietch, Samuel Paul	<i>ch e</i>	<i>Boston</i>	272 <i>Shawmut Ave.</i>
Esten, Edwin Chandler		<i>Littleton</i>	West, 15
Fairbank, John William	<i>me</i>	<i>Cambridge</i>	A T Ω House
Ferguson, David		<i>Methuen</i>	Φ Δ House
Garde, Leslie Eames	<i>me</i>	<i>Lynn</i>	155 <i>Shepard St.</i>
Halpin, Henry Edward	<i>ce</i>	<i>Somerville</i>	59 <i>Albion St.</i>
Hunt, Everett Currie	<i>st e</i>	<i>Somerville</i>	Σ T A House
Jameson, Charles Franklin	<i>ch e</i>	<i>W. Somerville</i>	A T Ω House
Katz, Henry Leon	<i>ce</i>	<i>Malden</i>	West, 26
Keyes, William Arthur	<i>st e</i>	<i>Lynn</i>	177 <i>Fayette St.</i>
Lee, Cedric Crandon	<i>ch e</i>	<i>Everett</i>	Z Ψ House
Neale, John Arthur	<i>ce</i>	<i>Cliftondale</i>	Φ Δ House
Palumbo, Emilio Leonard	<i>ce</i>	<i>Medford</i>	320 <i>Fellsway, West</i>
Pennucci, Conrad	<i>ce</i>	<i>East Boston</i>	115 <i>Neptune Ave.</i>
Powers, Clinton Russell	<i>ch e</i>	<i>Portland, Me.</i>	78 <i>Bromfield Rd.</i> W. Somerville
Taylor, Raymond Clyde	<i>me</i>	<i>Arlington Heights</i>	Σ T A House
Wilson, Earl Snow	<i>ee</i>	<i>Hyannis</i>	Δ T House

Sophomore Class

Adelson, Louis	<i>Chelsea</i>	14 <i>Bloomington St.</i>
Atkins, Arthur Randolph	<i>Roslindale</i>	14 <i>Ardale St.</i>
Berg, Carl	<i>Everett</i>	34 <i>Henry St.</i>
Baldwin, Gilbert Edward	<i>Roxbury</i>	West, 32
Bearse, Edwin Wilton	<i>Somerville</i>	43 <i>Cutter St.</i>
Borden, Karl Bigelow	<i>Arlington Heights</i>	159 <i>Appleton St.</i>
Brown, Horton	<i>Marblehead</i>	West, 22
Burbank, Colby Lewis	<i>Revere</i>	213 <i>Beach St.</i>
Carr, Philip Amory	<i>Lawrence</i>	34 <i>Dorchester St.</i>

Clarke, William John	<i>Boston</i>	<i>11 Grenville Pl.</i>
Connor, Bernard Dominic	<i>Somerville</i>	<i>16 Hathorn St.</i>
Copp, John Irving	<i>Cambridge</i>	<i>23 Inman St.</i>
Earle, Chester Reed	<i>Lawrence</i>	West, 16½
Ela, Robert Blazo	<i>Kezar Falls, Me.</i>	West, 31
Foster, Elliot Chandler	<i>Medford</i>	Commons Club
Hall, Edward Franklin	<i>Lynn</i>	West, 2
Hamilton, Harold Sylvester	<i>Cliftdale</i>	Σ T A House
Heileman, Calvin Marx	<i>Tufts College</i>	Σ T A House
Holmgren, Viking Raymond	<i>E. Lynn</i>	
	184 Harvard St., Cambridge	
Knowles, Mahlon Gilman	<i>Swampscott</i>	West, 14
Leland, Harold Bickford	<i>Somerville</i>	<i>34 Irving St.</i>
Lewis, Robert Sherman	<i>Washington, D. C.</i>	East, 3
MacDonald, Norman Duncan	<i>Melrose</i>	<i>58 Howard St.</i>
McCarthy, John Joseph, Jr.	<i>Somerville</i>	<i>220 Summer St.</i>
McCarthy, John Michael, Jr.	<i>Natick</i>	East, 28
McLellan, Robert Leston	<i>Dorchester</i>	<i>10 Oakley St.</i>
Merritt, Warren Franklin	<i>Galveston, Tex.</i>	A T Ω House
Milliman, Frank Cooley	<i>W. Somerville</i>	<i>175 College Ave.</i>
Mishel, William Joseph	<i>Roxbury</i>	West, 6
Mortenson, Ernest Dawson	<i>Bedford</i>	East, 1
Nichols, Byron Franklin	<i>Methuen</i>	East, 5
Paul, Frederick Henry, Jr.	<i>Waltham</i>	Δ T Δ House
Perry, Emmanuel von Betzen	<i>Canal Zone, Panama</i>	Φ Δ House
Porter, Arthur Bray	<i>Salem</i>	A T Ω House
Ransom, Lake Smith	<i>Longmont, Colo.</i>	<i>29 Sawyer Ave.</i>
Segal, David	<i>Roxbury</i>	<i>46 Hampden St.</i>
Spaulding, Paul Pickering	<i>Dorchester</i>	Σ Δ A House
Stanton, Charles Ingram	<i>Revere</i>	East, 30
Tentler, Lewis Aaron	<i>Dorchester</i>	<i>1073 Dorchester Ave.</i>
Terhune, Edward Andrus, Jr.	<i>Dorchester</i>	East, 30
Terry, Warren Franklin	<i>W. Somerville</i>	<i>108 College Ave.</i>
Upton, Charles Hastings	<i>Arlington Heights</i>	<i>27 Harvard St.</i>
Waite, Clayton Byron	<i>Fort Ann, N. Y.</i>	Paige, 15
Waters, Mendal	<i>Roxbury</i>	<i>1036 Harrison Ave.</i>
Webb, Richard Bruce	<i>Washington, D. C.</i>	West, 2

Freshman Class

Aronson, Jesse Moses	<i>Boston</i>	<i>17 Grove St.</i>
Baker, Theodore Edward	<i>W. Somerville</i>	<i>20 Grove St.</i>
Brainerd, Edward Wendell	<i>Dorchester</i>	<i>13 Upland Ave.</i>
Briggs, Albert Jeffries	<i>Dorchester</i>	East, 26

Bronski, Leo Max
 Clark, William Wells
 Cobb, Forrest Willard
 Colby, William Abner
 Drummey, James Joseph
 Entwistle, Guy Russell
 Farley, Albert Lee
 Gallen, Francis Lawrence
 Gordon, Philip Cummings
 Green, Richard Winthrop
 Hamilton, Arthur Leo
 Hawker, Leslie Ward
 Highriter, Harry Walter
 Hodgdon, Melvin Wyman
 Hodges, Benjamin Redfern
 Hutchinson, James Irvine
 Jochim, Henry Frank
 Kelly, John Louis
 Kraus, Benjamin Franklin
 Lathrop, Maxwell James
 Lehrman, Samuel Leo
 Libman, Harry
 London, Harry
 Loring, Warren Edward
 MacOnie, George Watson
 Miller, Herbert Dwight
 Monroe, Harris Goodman
 Moore, Ronald Roberts
 Morgan, Miles Edmund

Morse, Arthur Lewis
 Nash, James Francis
 Nichols, Alfred Richard
 Norton, Edward Howd
 O'Marra, Frank Joseph
 Parent, Walter Elmer
 Parker, John Acton
 Peck, Howard Bennett
 Porter, Leo Augustus
 Powers, Harvey Marcellus
 Ratti, Augustus P.
 Rice, Harold De Blois
 Russell, Herbert Burgoyne

Dorchester 58 *Cushing Ave.*
Waltham *Beaver St.*
Waltham East, 8
West Newton West, 11
Revere 29 *School St.*
Medford 56 *Monument St.*
Boston 76 *Alleghany St.*
Somerville 602 *Broadway*
Barre, Vt. West, 9
Winthrop East, 28
Boston 718 *Commonwealth Ave.*
Wheeling, W. Va. East, 21
Meriden, Conn. Dean, 2
Somerville 55 *Pennsylvania Ave.*
Winchester 34 *Myrtle Ter.*
Somerville 44 *Rogers Ave.*
Revere 217 *Beach St.*
Arlington Heights 32 *Appleton St.*
Jamaica Plain 16 *Ophir St.*
Orange West, 13
E. Boston 72 *Lexington St.*
Dorchester 1 *Page St.*
Dorchester 36 *Coleman St.*
Charlestown 9 *Cedar St.*
Medford 50 *Hillsdale Rd.*
Tufts College East, 23
Orange West, 13
W. Somerville 1 *Kenwood St.*
Warner, N. H.
 35 *Putnam St., Somerville*
Watertown 14 *Hersom St.*
E. Bridgewater *Cross St.*
Dorchester 50 *Wrentham St.*
N. Westchester, Conn. East, 20
Kingston, N. Y. West, 21
Stoughton 18 *Elgin St.*
Somerville 246 *Broadway*
Bridgewater, Conn. East, 19
Stoughton A T Ω *House*
Hollis, N. H. East, 23
W. Everett 179 *Bucknam St.*
Somerville East, 14
Jamaica Plain A T Ω *House*

Scarlett, Edward George	<i>Lynn</i>	West, 10
Sweet, Walter Prescott	<i>W. Somerville</i>	East, 18
Thorndike, Kinsley Barrett	<i>Medford</i>	A T Ω House
Turner, Robert Eaton	<i>Winthrop</i>	A T Ω House
Van Dyke, Percy James	<i>McIndoes, Vt.</i>	West, 5
Voss, William Charles	<i>Hartford, Conn.</i>	East, 25
Waghorne, Charle Albert	<i>Melrose</i>	366 Pleasant St.
Wahlen, Frank Gustave	<i>Montpelier, Vt.</i>	East, 32
Wainwright, Stuart Frederick	<i>Andover</i>	East, 17
Waldo, Hollis Thurlow	<i>Groveland</i>	East, 31
Walker, William Edward	<i>Orange</i>	A T Ω House
Walters, James W.	<i>Washington, D. C.</i>	West, 2
Woodill, Harold William	<i>Melrose</i>	306 W. Emerson St.

Unclassified Students

Hubbard, John Warren	<i>Cambridge</i>	14 Sacramento St.
Mitchie, George Arthur	<i>Lexington</i>	416 Massachusetts Ave.
Silversmith, Levi Francis	<i>Winthrop</i>	West, 26
Tyler, Bernard Otto	<i>Beverly Farms</i>	East, 14
Wheeler, Arthur Gates	<i>Stow</i>	West, 8

Bromfield-Pearson School

Abbott, Robinson	<i>Malden</i>	East, 4
Connors, Thomas Aquinas	<i>Cambridge</i>	1 Parker St.
Coyne, Harry John	<i>Cambridge</i>	60 Holworthy St.
Curley, Willard Paul	<i>Jamaica Plain</i>	156 South St.
Deyo, Henry Edward	<i>Athol</i>	35 High St.
Linderbeck, Kenneth A.	<i>Willimantic, Conn.</i>	East, 4
MacKnight, Daniel Richard	<i>Revere</i>	15 Mill St.
Moodie, William Carmichael	<i>Wappingers Falls, N. Y.</i>	East, 11
Parnell, Eric	<i>St. Johns, Newfoundland</i>	East, 11
Swanson, George Swen	<i>Dorchester</i>	15 Gardner Ave.
Wheeler, Herbert Blish	<i>Cambridge</i>	1654 Massachussts Ave.
Young, Raymond Morrison	<i>Winchester</i>	Wedgemere Ave.

Supplementary List

(Students present during 1913-1914, but not appearing in the catalogue)

Dietch, Samuel Paul	<i>Boston</i>	272 Shawmut Ave.
Wang, Ting Fen	<i>Peking, China</i>	357 Boston Ave., Medford, Mass.

Jackson College

Senior Class

Bisbee, Eleanor	<i>ab-bd</i>	<i>Arlington Heights</i>	Richardson, 2
Bissell, Mary Elizabeth	<i>ab</i>	<i>Meriden, Conn.</i>	Metcalf, 16
Cate, Esther Safford	<i>ab</i>	<i>Barre, Vt.</i>	Richardson, 4
Cavanaugh, Mary Eleonor	<i>bs</i>	<i>W. Lynn</i>	Start, 5
Cragin, Bernice Willette	<i>ab</i>	<i>Worcester</i>	Start, 2
Davis, Marion Hill	<i>ab</i>	<i>Somerville</i>	Metcalf, B
Fessenden, Margaret Tebbetts	<i>bs</i>	<i>Ashfield</i>	Metcalf, 1
Greenwood, Rena Mae	<i>bs</i>	<i>Medford</i>	Metcalf, 2
Hea, Margaret Hildred	<i>ab</i>	<i>Medford</i>	85 Summer St.
Hooper, Gertrude Mellen	<i>ab</i>	<i>Tufts College</i>	124 Professors Row
Houghton, Dorothy Taylor	<i>ab</i>	<i>No. Andover</i>	Start, 4
Keith, Gladys Ethlya	<i>ab</i>	<i>Tufts College</i>	93 Capen St.
Moyer, Pauline	<i>bs</i>	<i>Hartford, Conn.</i>	Metcalf, 4
Nichols, Marian Bill	<i>ab</i>	<i>Hathorne</i>	Richardson, 4
Peabody, Ethel Lorinda	<i>ab</i>	<i>W. Somerville</i>	80 Wallace St.
Siebert, Margaret	<i>ab</i>	<i>Hyde Park</i>	Richardson, 3
Welch, Alice Ruth	<i>ab</i>	<i>So. Lowell</i>	Metcalf, 12

Junior Class

Bixby, Madeleine	<i>bs</i>	<i>North Andover</i>	Start, 3
Burbank, Ruth	<i>ab</i>	<i>Lynn</i>	Start, 1
Chipman, Lucille Horton	<i>ab</i>	<i>Provincetown</i>	Metcalf, 3
Cotton, Alice Mae	<i>ab</i>	<i>Arlington</i>	1054 Massachusetts Ave.
Cragin, Margaret	<i>ab</i>	<i>West Somerville</i>	48 Meacham Rd.
Frizzell, Ethel May	<i>ab</i>	<i>Woburn</i>	20 Garfield Ave.
Gardner, Mary Violetta	<i>ab</i>	<i>New Bedford</i>	Metcalf, C
Hagerty, Aileen Alberta	<i>ab</i>	<i>Woburn</i>	66 Arlington Rd.
Hall, Marion	<i>ab</i>	<i>Salem Depot, N. H.</i>	Metcalf, 9
Harrington, Isabel	<i>ab</i>	<i>Medford</i>	32 Pearl St.
Hart, Dorothy	<i>ab</i>	<i>Medford</i>	57 Logan Ave.
Knight, Anna Chatfield	<i>bs</i>	<i>Melrose Highlands</i>	Metcalf, 4
Matheson, Mabel Knowles	<i>ab</i>	<i>Provincetown</i>	Metcalf, C
Noyes, Christine Blanche	<i>ab</i>	<i>Lexington</i>	5 Tewkesbury St.
Piper, Lydia Josephine	<i>ab</i>	<i>S. Biddeford, Me.</i>	Start, 4
Seavey, Ruth Eliza	<i>bs</i>	<i>W. Somerville</i>	40 Whitfield Rd.
Pulsifer, Alice Cook	<i>ab</i>	<i>Campton, N. H.</i>	Metcalf, A
Wallis, Ruth	<i>ab</i>	<i>Fall River</i>	Metcalf, 8

Sophomore Class

Cochran, Margaret	<i>bs Medford</i>	34 Hancock St.
Cogswell, Almena	<i>ab Winchester</i>	Richardson, 1
Cutler, Dorothy Bascom	<i>ab East Jaffrey N. H.</i>	Richardson, 6
Dean, Marjorie Grace	<i>bs Winthrop</i>	Richardson, 1
Hardy, Helen Katherine	<i>ab Andover</i>	Richardson, 9
Higgins, Helen Beatrice	<i>ab Andover</i>	Metcalf, 13
Jameson, Helen Marion	<i>ab Brookline</i>	Metcalf, B
Jeffers, Madeline	<i>bs Chelsea</i>	Metcalf, 7
Morse, Dorris Brownell	<i>ab S. Easton</i>	Metcalf, 15
Osborn, Emilie Poor	<i>bs Peabody</i>	Metcalf, 7
Parshley, Esther	<i>ab Winchester</i>	Richardson, 1
Pease, Dorothy	<i>ab Tufts College</i>	205 College Ave.
Simpson, Mildred Brooks	<i>bs Winthrop</i>	Metcalf, 14
Wheat, Geneva Alice	<i>ab Bristol, N. H.</i>	Metcalf, 14
Wood, Bernice Ethel	<i>bs Charlestown</i>	Richardson, 5
Woodman, Winifred Katharine	<i>ab W. Medway</i>	Metcalf, 12
Young, Priscilla Bertha	<i>ab Exeter, N. H.</i>	Metcalf, 15

Freshman Class

Briggs, Katherine Emma	<i>ab W. Medford</i>	150 Arlington St.
Clark, Esther Belle	<i>bs Medford</i>	11 Adams St.
Clarke, Geraldine Kendall	<i>ab Ogdensburg, N. Y.</i>	Richardson, 11
Crosby, Genevieve	<i>ab Hingham</i>	Metcalf, 11
Crowell, Ruth	<i>ab Medford</i>	44 Adams St.
Dacey, Mildred Anna	<i>bs Lexington</i>	18 Muzzey St.
Danver, Anna Dorothea	<i>ab Glenbrook,* Conn.</i>	Metcalf, 10
Davies, Jane Stodder	<i>ab Tufts College</i>	72 Professors Row
Deasy, Ella Marie	<i>ab Chelsea</i>	98 Grove St.
Duffey, Pauline	<i>ab Medford</i>	Metcalf, 4
Durkee, Margaret	<i>ab Tufts College</i>	38 Professors Row
Eberhardt, Katharine	<i>bs Arlington</i>	248 Gray St.
Emerson, Mildred	<i>ab Lowell</i>	Start, 1
Ferris, Julie Marguerite	<i>ab S. Boston</i>	557 Fourth St.
Foster, Alice Frances	<i>ab Winchester</i>	15 Grove St.
Geddes, Helen Rigby	<i>ab Somerville</i>	88 Munroe St
Gilbert, Eleanor Carrie	<i>ab Bloomfield, N. J.</i>	Start, 7
Glass, Ellen Melissa	<i>bs Lexington</i>	11 Endicott Ave., Somerville
Honors, Mildred Olive	<i>bs E. Lynn</i>	542 Chestnut St.
Mansfield, Nellie Birkenhead	<i>ab Everett</i>	73 Baldwin Ave.
Moody, Beulah Borden	<i>ab Chelsea</i>	76 Grove St.

Morse, Laura Lucile	<i>ab</i>	<i>Arlington</i>	<i>41 Brantwood Rd.</i>
Newcomb, Bertha May	<i>bs</i>	<i>Portland, Me.</i>	Metcalf, 10
Nickerson, Muriel Nathalie	<i>ab</i>	<i>Chelsea</i>	<i>139 Washington Ave.</i>
Perkins, Doris	<i>ab</i>	<i>Burlington</i>	<i>Lexington St.</i>
Perkins, Madeline Abby	<i>bs</i>	<i>Lynn</i>	Metcalf, 6
Raymenton, Marion Ward	<i>ab</i>	<i>Cavendish Vt.</i>	Richardson 8
Rowe, Helen Almira	<i>ab</i>	<i>Winchester</i>	<i>20 Vine St.</i>
Sargent, Elizabeth Tilton	<i>ab</i>	<i>Winter Hill</i>	Metcalf 6
Semons, Gladys Milford	<i>ab</i>	<i>Manchester</i>	Metcalf, 3
Sibley, Helen	<i>ab</i>	<i>Bristol, N. H.</i>	Metcalf, 13
Sibley, Helen Mildred	<i>bs</i>	<i>Medford</i>	<i>18 Walnut St.</i>
Sullivan, Margaret Buckley	<i>ab</i>	<i>Winchendon</i>	Start, 6
Trott, Marian Everson	<i>ab</i>	<i>Winchester</i>	Richardson, 1
Ware, Kennetha Marguerite	<i>bs</i>	<i>Cambridge</i>	<i>24 Ellsworth Ave.</i>
Wheeler, Isabelle Martha	<i>ab</i>	<i>Everett</i>	<i>129 Glendale St.</i>
Wonson, Isabelle	<i>bs</i>	<i>Full River</i>	
			<i>44 Liberty Ave., W. Somerville</i>

Special Student

Gardner, Marion Dillon	<i>sp</i>	<i>Cambridge</i>	<i>8 St. Paul St.</i>
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Unclassified Student

Hamilton, Beulah Myrtle	<i>ab</i>	<i>Chebeague, Me.</i>	Richardson, 3
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Medical School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Fourth Year

Adams, Winthrop	<i>Cambridge</i>
Angier, Harlan Wesley	<i>Oakham</i>
Bearse, Carl	<i>Boston</i>
Birdsall, Clarence Harlow	<i>Lawrence</i>
Brown, Roy Farrington	<i>Provincetown</i>
Burns, John Edward	<i>Natick</i>
Butler, Alice Etta Ruth	<i>Stoneham</i>
Butler, David Mathew	<i>Brockton</i>
Campbell, Malcolm Samuel	<i>Malvern, Iowa</i>
Cunningham, Richard Augustine	<i>Lynn</i>
Dunn, Joseph Henry	<i>Rockland</i>
Dutton, Frank Kingsley	<i>Westerly, R. I.</i>
Elkind, Henry Byron	<i>Worcester</i>
Fobes, Howard Edward	<i>Whitman</i>
Fregeau, Aime Napoleon	<i>Fitchburg</i>
Ghazarian, Garabed Sarkis	<i>Aintab, Turkey-in-Asia</i>
(A.B. Central Turkey College)	
Gooding, John Harold	<i>Dorchester</i>
Green, Archibald Forest, D.V.S. (N. Y. Univ.)	<i>Rockland, Me.</i>
Guralnick, Rubin	<i>East Boston</i>
Hart, Francis Denbroeder	<i>Bridgewater</i>
Hart, Louis Park	<i>Marlboro</i>
Hodgkins, Edward Marshall	<i>Dorchester</i>
Jewett, Everett Porter	<i>Gardner</i>
Kane, William Vincent	<i>Lynn</i>
Koplin, Harry	<i>Windsor Locks, Conn.</i>
Krupp, David Dudley	<i>Brooklyn, N. Y.</i>
Leith, Richard Bliss	<i>Cambridge</i>
Logiodice, Leonard Francis	<i>West Haven, Conn.</i>
Lynch, Joseph Michael	<i>Dorchester</i>
Macomber, Clarence Alden	<i>Pittsfield, Me.</i>
Magoun, Charles Elmer	<i>Cambridge</i>
Mahoney, John Francis	<i>New Bedford</i>
Margeson, Reginold Dimock	<i>Westwood</i>
Margolis, Barney Joseph	<i>New Bedford</i>
Martin, William Richard	<i>Spencer</i>
McClintock, Elsie	<i>Chelsea</i>

McKiernan, Robert Lewis	<i>New Haven, Conn.</i>
Mernin, Mary Towler	<i>Cambridge</i>
Muldoon, Agnes Catharine	<i>Somerville</i>
Murphy, Harold Alphonsus	<i>St. John, N. B.</i>
O'Brien, John Charles, Jr.	<i>Greenfield</i>
Papavasiliou, Vasilios Konstantinos	<i>Natick</i>
Persky, Myer Arthur	<i>Malden</i>
Roderick, Anthony Joseph	<i>New Bedford</i>
Salerno, Louis Francis	<i>East Boston</i>
Sandler, Frank Fishel	<i>Revere</i>
Schwartz, George Harvey	<i>East Boston</i>
Shinn, Philip Allen	<i>Boston</i>
Silverman, Max	<i>Brockton</i>
Voorhis, Kathalyn	<i>Paterson, N. J.</i>
Whitcomb, Clarence ³ Adelbert	<i>Malden</i>
Whitney, Leroy Danforth	<i>Everett</i>
PH.C. (R. I. Coll. Ph.)	
Wright, Willard Lyman	<i>Keene, N. H.</i>

Third Year

Anderson, Arthur Forest	<i>Westerly, R. I.</i>
Applebaum, Jacob	<i>Dorchester</i>
Armstrong, Charles ³ Medville	<i>Calais, Me.</i>
Aronson, Charles	<i>Salem</i>
Battershall, Jesse Wolfnenden	<i>Attleboro</i>
Beaudet, Elphege Alcime, B.S. (Laval)	<i>Newmarket, N. H.</i>
Berr, Alfred William	<i>Rockville, Conn.</i>
Brannick, Catherine Elizabeth	<i>Somerville</i>
Cauley, John Henry Jr.	<i>Dorchester</i>
Chalfen, Samuel Edward	<i>Cambridge</i>
Cohen, Leo	<i>Providence, R. I.</i>
Cohen, Samuel Adams	<i>Roxbury</i>
Connor, Hilary Joseph	<i>Woodstock, N. B.</i>
Cotting, William Frederick	<i>Medford</i>
Dalton, Stephen James	<i>Marlboro</i>
Di Mento, Vincent James	<i>Boston</i>
Duff, John, Jr.	<i>Charlestown</i>
DuVally, Nicholas	<i>Fall River</i>
Easter, Edna Frances	<i>Arlington</i>
Fiege, Herbert Reynold	<i>Cambridge</i>
Fleeter, Meyer Aaron	<i>Brooklyn, N. Y.</i>
Friederman, Elie Louis	<i>Boston</i>
Gaetani, Arthur Leonard	<i>Dorchester</i>

Ganley, Arthur Joseph	<i>Methuen</i>
Genge, Victor Patrick	<i>St. Johnsbury, Vt.</i>
Goldman, Edward	<i>Boston</i>
Granata, Tancredi Giovanni	<i>Providence, R. I.</i>
Grant, Winifred Margaret	<i>Lawrence</i>
Green, Harold Russell	<i>West Somerville</i>
Hale, Frank Smith	<i>Providence, R. I.</i>
Hardy, Wilbert Clark	<i>Haverhill</i>
Harriman, Frank Edwin	<i>North Adams</i>
Herlihy, David Joseph	<i>Cambridge</i>
Hornstein, Morris	<i>New York City</i>
Hurley, William Cyril Rowe	<i>East Boston</i>
Jennings, John Greenwood	<i>Wellesley Hills</i>
Johnson, Goodwin Adolph	<i>Keene, N. H.</i>
Kaitz, Harry	<i>Boston</i>
Kandib, Annie Hilda	<i>Dorchester</i>
LaLiberte, Edmond Joseph	<i>Spencer</i>
Liberti, Angelo	<i>East Boston</i>
Lynch, Charles Leo	<i>Roxbury</i>
MacCordy, Earl Cunningham	<i>Amsterdam, N. Y.</i>
MacPhee, Lillian Lee	<i>Somerville</i>
McCarthy, Charles Daniel Jr.	<i>Malden</i>
McDonald, Harry Leo	<i>Attleboro</i>
Melkonian, Eliza Armenoohi	<i>Arabker, Turkey</i>
Meredith, Florence Lyndon	<i>Dorchester</i>
Muldoon, Mary Theresa	<i>Somerville</i>
O'Connor, William Henry	<i>Dorchester</i>
Papen, George William	<i>Boston</i>
Park, Esther Marguerite	<i>Winchester</i>
Perry, Walter Leslie	<i>Medford</i>
Powers, Harris Earle	<i>Manchester, N. H.</i>
Quirk, Thomas Christopher	<i>Watertown</i>
Rafferty, Thomas Bernard	<i>Lynn</i>
Rice, George Arnold	<i>Worcester</i>
Rudman, Israel Ellis	<i>Bangor, Me.</i>
Simmons, Hugh Ludwig	<i>Morrill, Me.</i>
Skirball, Joseph Jacob	<i>Revere</i>
Spillane, Bernard	<i>North Easton</i>
Sullivan, Daniel Joseph	<i>Manchester, N. H.</i>
A.B. (Mt. St. Josephs Coll.)	
Sundelöf, Ester Mathilda Eleonora	<i>Roxbury</i>
Sweeney, John Gerard	<i>N. Cohasset</i>
Tierney, Edward James	<i>Holyoke</i>

Ullian, Louis Joseph	<i>Roxbury</i>
Wood, William Baxter	<i>Revere</i>
Yat, Wong King	<i>Duck Sing Lee, Singning,</i>
Zarella, Angelo Mario	<i>East Boston</i> <i>China</i>

Second Year

Adams, Edward Augustus	<i>Fitchburg</i>
Ahern, John Francis	<i>Boston</i>
Alley, Leon Arthur	<i>Brockton</i>
Ash, Richard Maurice	<i>W. Quincy</i>
Atkinson, Frederick Charles	<i>Methuen</i>
Banquer, Jacob	<i>Roxbury</i>
Beavers, Benjamin F.	<i>Decatur, Indiana</i>
Bolotow, Nathan Abraham	<i>Lonsdale, R. I.</i>
Bridgwood, David	<i>Brockton</i>
Brown, Abe Arthur	<i>Lawrence</i>
Brown, Henry Seabury	<i>Providence, R. I.</i>
Budreski, Alphonse Frank	<i>Brockton</i>
Caruso, Septimio	<i>Roslindale</i>
Casey, Chester Arthur	<i>Ironton, Ohio</i>
Churchill, Anna Quincy	<i>Dorchester</i>
Clark, Millard Cressey	<i>Bethlehem, N. H.</i>
Clark, William Francis	<i>Peabody</i>
Cohen, Newman	<i>Everett</i>
Condrick, James Francis	<i>Weymouth</i>
Corea, George Thomas	<i>Provincetown</i>
Crimmin, Leo Philip	<i>Brockton</i>
Cunha, Manuel Felix	<i>Somerville</i>
Currie, Inez Margaret	<i>Needham</i>
Duffy, Edward Anthony	<i>Worcester</i>
Fitzgibbons, Patrick Joseph	<i>Amsterdam, N. Y.</i>
Fowler, Alma Evelyn	<i>Boston</i>
French, Leland Malcom	<i>Worcester</i>
Gallagher, Henry Joseph	<i>Providence, R. I.</i>
Geary, Frank Henry	<i>Danvers</i>
Ginn, Robert Leicester	<i>West Somerville</i>
Goddard, Fred Chambers	<i>Dover, N. H.</i>
Goldberg, Max Manus	<i>Lynn</i>
Gordon, Louis	<i>Boston</i>
Greenwood, Wilbourt Edward	<i>Arlington, R. I.</i>
Gurjian, Leon Kevork	<i>Worcester</i>
Hadfield, Jonathan Pigott	<i>Providence, R. I.</i>
Hamburg, Miles Myer	<i>Everett</i>

Hanlon, Morgan Patrick	<i>Cambridge</i>
Haskins, Abraham	<i>Boston</i>
Heffernan, Roy Joseph	<i>Somerville</i>
Hoey, Edward Charles	<i>Natick</i>
Hoffman, Morris	<i>Boston</i>
Hooper, Anne Leslie	<i>Tufts College</i>
Hopkins, Lawrence Towle	<i>Somerville</i>
Hopner, Sadie	<i>Lowell</i>
Howard, Rhoda Letitia	<i>Troy, N. Y.</i>
Johnson, Lewis Wells	<i>Greenfield</i>
Joslin, Royal Knight	<i>Worcester</i>
Kable, Josephine Downie	<i>York, Pa.</i>
Kaufman, Morris Frank	<i>Boston</i>
Keefe, Francis Joseph	<i>Brockton</i>
Kelleher, Simon Bartholomew	<i>Cambridge</i>
Kiley, Cornelius Joseph	<i>Peabody</i>
Kirby, James Caleb	<i>Salem</i>
Krepps, Raymond Miles	<i>Waynesboro, Penn.</i>
Lanois, Esdras Joseph	<i>Northboro</i>
Larson, Walfred Isador	<i>Hartford, Conn.</i>
Lipchitz, Charles Saul	<i>New Bedford</i>
Loewe, Walter Ralph	<i>Dorchester</i>
Long, Rufus Wilfred	<i>Manchester</i>
Macmillan, Alexander Stewart	<i>Boston</i>
McKay, Hugh Gordon	<i>Howland, Me.</i>
McKinnon, Donald Cuyler	<i>Lowell</i>
Medalia, David Bernard	<i>Dorchester</i>
Meehan, James Morgan	<i>Woburn</i>
Meledy, Joseph Aloysius	<i>Providence, R. I.</i>
Merritt, Edward Lester	<i>Fall River</i>
Merritt, Robert Elmer	<i>Wollaston</i>
Mileau, Alexander, Jr.	<i>Lewiston, Me.</i>
Mills, Parker	<i>Lynn</i>
Murphy, James Moore	<i>Norwich, Conn.</i>
O'Brien, Frederick William	<i>Arlington</i>
O'Connell, John Gabriel	<i>Bridgeport, Conn.</i>
O'Neill, Elizabeth Veronica	<i>Mattapan</i>
Pettengill, Warren Martin	<i>Haverhill</i>
Polakewich, Isaac	<i>Biddeford, Me.</i>
Quinn, John Joseph James	<i>Revere</i>
Rathey, Arthur Andrew	<i>Lawrence</i>
Ring, Arthur Joseph	<i>Lynn</i>
Rosenkovitz, Edward	<i>Revere</i>

Rudman, Benjamin William	<i>Portland, Me.</i>
Ruisi, John Edward	<i>Westerly, R. I.</i>
Salmon, Charles Augustus	<i>Worcester</i>
Scott, David Miller, A.B. (Lincoln University)	<i>Augusta, Ga.</i>
Segall, Samuel	<i>Haverhill</i>
Shafer, Rudolph Jonas	<i>Castleton-on-Hudson, N Y.</i>
Shaw, John	<i>Boston</i>
Simons, Sigmund	<i>Pawtucket, R. I.</i>
Slater, Robert	<i>Boston</i>
Smith, Lillian Richardson	<i>Lawrence</i>
Solomon, Sidney	<i>Revere</i>
Story, Theodore LeRoy	<i>Hartford, Conn.</i>
Struthers, Halbert Kinnie	<i>Upton</i>
Sullivan, Robert Thomas	<i>Greenfield</i>
Tripp, John Henry	<i>Boston</i>
Villane, Anthony Joseph	<i>New York City</i>
Ward, John Clement	<i>Marlboro</i>
Ward, John Joseph	<i>Johnstown, N. Y.</i>
Warner, Helen Thompson	<i>Seymour, Conn.</i>
Weiss, Bernard	<i>Boston</i>
Willey, Walter Brown, Jr.	<i>Bangor, Me.</i>
Wyman, Thomas Clark	<i>Portland, Me.</i>
Zonn, Seymour Israel	<i>Malden</i>

First Year

Armstrong, Irving Foster	<i>Marlboro</i>
Atkinson, Roderick Melville	<i>Williamsfield, Jamaica,</i>
Bowman, Edward Francis	<i>Boston</i> <i>B. W. I.</i>
Burke, Edward Francis	<i>Providence, R. I.</i>
Colton, Hubert Porter	<i>Dorchester</i>
Connors, Jeremiah Henry	<i>Boston</i>
Costello, John Thomas	<i>Webster</i>
Dahlen, Carl Albert	<i>Roxbury</i>
David, Jesse Mirza	<i>Chicago, Ill.</i>
Dean, Ella Batchelder	<i>Beverly</i>
Delaney, William Joseph	<i>Marlboro</i>
Dennett, Paul Carroll	<i>Portsmouth, N. H.</i>
Doucet, Charles Stanislaus	<i>Manchester, N. H.</i>
Dunphy, Pierce James	<i>Worcester</i>
Emard, George Adelbert	<i>Mansfield</i>
Eustis, William Wallace	<i>Dixfield, Me.</i>
Ganley, Edward Henry	<i>Methuen</i>
Gately, Lynde	<i>Melrose</i>

Goldman, Harry	<i>Roxbury</i>
Golini, Carlotta Nicola	<i>Providence, R. I.</i>
Greenberg, Boris Efim	<i>Roxbury</i>
Hatt, Rafe Nelson	<i>West Paris, Me.</i>
Higgins, Clarence Bertrand	<i>Dorchester</i>
Holbrook, Charles Stewart	<i>Chelmsford</i>
Hook, Marion	<i>St. Leonards-on-Sea, England</i>
Israel, Joseph Gilbert	<i>Fitchburg</i>
Jankelson, Isaac Rudolph	<i>Roxbury</i>
Landry, Pierre Leonard	<i>Chicopee</i>
Lokrantz, Sven Richard	<i>Boston</i>
MacDonald, Joseph C.	<i>Beloit, Kansas</i>
Maroney, Frederick William	<i>Springfield</i>
Mason, Harry Edison	<i>W. Somerville</i>
McAlpine, Alfred Freeman	<i>Somerville</i>
McDewell, Henry Estey	<i>Brookline</i>
McDonald, Ray Thomas	<i>Medford</i>
McGauley, Walter Gardner, D.D.S.	<i>Worcester</i>
McNamara, John Ignatius	<i>Taunton</i>
Mooney, Joseph Bernard	<i>St. Johns, N. B.</i>
Moran, Andrew Charles	<i>Fall River</i>
Morris, James Benjamin, Jr.	<i>New Bedford</i>
Mulhern, Joseph Patrick	<i>Worcester</i>
Narekian, Nishan Krikor	<i>Boston</i>
Neill, Roberta Estella	<i>Holyoke</i>
Nichols, Guy Edward	<i>Wilmington</i>
Nickum, John Stanley	<i>Allentown, Pa.</i>
Oslin, William Henry	<i>Providence, R. I.</i>
Parker, Charles Clinton, Jr.	<i>Roxbury</i>
Pasterczyk, Stanislaus Joseph	<i>Lowell</i>
Phipps, Walter Emerson	<i>Holliston</i>
Powers, John Paul	<i>Worcester</i>
Pratt, Ernest Frederick	<i>Lowell</i>
Primrose, Rodney Bertram	<i>Groveland</i>
Resnik, Joseph, B.S.	<i>Roxbury</i>
Rockwell, Llewellyn Harrison	<i>Roxbury</i>
Rowley, Philip William	<i>Gloucester</i>
Rumrill, Samuel Irving	<i>Malden</i>
Sannella, Salvatore	<i>Revere</i>
Saphirstein, Hyman	<i>Boston</i>
Sarason, Lillian	<i>New Haven, Conn.</i>
Sawyer, Edward Julius	<i>Gardner</i>
Shaw, Henry Jessup	<i>W. Bridgewater</i>

Shohet, Harry Gabriel	<i>Portland, Me.</i>
Shubert, Julius	<i>Boston</i>
Sparks, William Cone	<i>Norwood</i>
Splaine, Russell Leo	<i>N. Brookfield</i>
Steffen, Anna Elizabeth	<i>Vermillion, Ohio</i>
Strammer, Myron Abner	<i>Jamaica Plain</i>
Sullivan, Russell Francis	<i>Melrose</i>
Swasey, Ednah Evitts	<i>Salem</i>
Tanner, Walter Lewis	<i>E. Hartford, Conn.</i>
Trombley, Walter Vincent	<i>Broad Brook, Conn.</i>
Troupin, Abraham Solomon	<i>Roxbury</i>
Weintraub, Harry Jeroham	<i>Boston</i>
Wheeler, William Davidson	<i>Roxbury</i>
Woolverton, Edgar Frank	<i>Woodstock, N. B.</i>

Special Student

Reynolds, Anna Max	<i>Stoneham</i>
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Dental School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Third Year

Bernstein, Barnett	<i>Lowell</i>
Berry, Charles William	<i>South Portland, Me.</i>
Brown, Chester Kilburn	<i>Roslindale</i>
Caldwell, Warren Charles	<i>Dorchester</i>
Carpenter, Lucius Sterling, D.D.S.	<i>Rochester, N. Y.</i>
Clancy, Frederic David	<i>Holliston</i>
Cohen, Joseph Harold	<i>Haverhill</i>
Courtney, Charles Stephen	<i>Boston</i>
Daly, William Joseph	<i>Boston</i>
Doron, Davis Bedell	<i>Bangor, Me.</i>
Duffy, Philip Arthur	<i>Riverpoint, R. I.</i>
Dumont, Roland Sifroy	<i>Amesbury</i>
Easton, Arthur William	<i>Bridgton, Me.</i>
Ewing, Arthur Wellington	<i>Framingham</i>
Farrell, John Benedict	<i>Revere</i>
Farren, Bernard Neil	<i>Turners Falls</i>
Ferreira, Theophylo	<i>Providence, R. I.</i>
Fine, Victor	<i>Dorchester</i>
Finnegan, Frederick Leo	<i>Saranac Lake, N. Y.</i>
Forsyth, Truman Oscar	<i>Cambridge</i>
Freundlich, Harry	<i>Boston</i>
Gallagher, Justin Peter	<i>Moncton, N. B.</i>
Gaw, George Joseph	<i>Auburndale</i>
Gerson, Samuel	<i>Chelsea</i>
Gibbons, Martin Francis	<i>Clinton</i>
Godfrey, Cranston Franklin, Jr.	<i>Hingham</i>
Goldberg, George	<i>Boston</i>
Gregory, Harold Lintner	<i>Pittsfield</i>
Halsey, Loris Colony	<i>Brookline</i>
Hayes, Frank Chandler	<i>Haverhill</i>
Heffern, William Joseph, Jr.	<i>Worcester</i>
Hughes, Frederick Gerald	<i>North Craftsbury, Vt.</i>
Jacobs, Leon Harry	<i>Rochester, N. H.</i>
Lanergan, Harry Clement	<i>Roxbury</i>
Langlois, Elie David	<i>Adams</i>
LeBœuf, Victor Anthony	<i>Worcester</i>
Levitt, Henry Salick	<i>Medford</i>

Lovejoy, Frederick Collins (A.B. Bates College)	<i>North Chesterville, Me.</i>
Lydakias, Luke Peter	<i>Boston</i>
MacPherson, William Alexander	<i>Clarktown, P. E. I.</i>
Mannix, Robert Milan	<i>Worcester</i>
Mansfield, Frederick Allen	<i>Rockland</i>
Markarian, Asadoor	<i>Worcester</i>
Mayo, Newell Cephas	<i>Athol</i>
McDonnell, Thomas Charles	<i>Pittsfield</i>
McGrath, James Francis	<i>Brookline</i>
Meltzer, Philip Edward	<i>Roxbury</i>
Mercille, Joseph McKenzie	<i>Haverhill</i>
Miner, Arthur Westall	<i>Malden</i>
Morris, Isidore Philip	<i>Haverhill</i>
Neagle, Martin Walter	<i>West Newton</i>
O'Day, Francis Daniel	<i>Hydeville, Vt.</i>
O'Donnell, William Thomas	<i>East Boston</i>
Oliver, Stanley Penney	<i>Wakefield</i>
Pitman, Paul Alfred	<i>Intervale, N. H.</i>
Pollina, Vincent Josephine	<i>Boston</i>
Porell, William Isaiah	<i>Haverhill</i>
Robertson, Walter Colburn	<i>Lakewood, R. I.</i>
Ronan, Catherine Frances	<i>Peabody</i>
Ryan, Frank Harold	<i>Oakdale</i>
Scott, Colburn Henry	<i>Cochituate</i>
Shohet, David Moses	<i>East Boston</i>
Stankard, Walter Martin	<i>Waltham</i>
Strong, William Henry	<i>East Boston</i>
Sullivan, Jeremiah Joseph	<i>Milford</i>
Whichelow, George William	<i>Boston</i>

Second Year

Adams, William Raymond	<i>Clinton</i>
Adelstein, Hyman Joseph	<i>Roxbury</i>
Auger, Ernest William	<i>Manchester, N. H.</i>
Barton, Earle Stanley	<i>Houlton, Me.</i>
Beerman, Sidney Herman	<i>Chelsea</i>
Berg, Bernard	<i>Dorchester</i>
Bowen, Fay Torence	<i>Dickinson Center, N. Y.</i>
Brown, William Foster	<i>Boston</i>
Bullard, Edward Mead	<i>Somerville</i>
Burrell, Harold Freeman	<i>South Weymouth</i>
Caisse, Richard Philemon	<i>Leominster</i>
Calabro, John Joseph	<i>Boston</i>

Carignan, Arthur Martin	<i>Dover, N. H.</i>
Carroll, Ralph Arthur	<i>Worcester</i>
Cassidy, William Cleveland	<i>Webster</i>
Charren, Harry	<i>Providence, R. I.</i>
Coburn, Garnet	<i>St. Johns, N. B.</i>
Collins, Arthur Eugene	<i>Everett</i>
Court, Samuel Jacob	<i>Haverhill</i>
Cronin, Harry James	<i>Portsmouth, N. H.</i>
Crowell, Harold William	<i>Lynn</i>
Cunningham, Ralph Edward	<i>Gloucester</i>
Curtin, Timothy James	<i>Norwood</i>
Davis, Hilma Adella	<i>Boston</i>
Demarest, Obadiah Armstrong	<i>Newton, N. J.</i>
Desautels, Edmond Leonide	<i>Dover, N. H.</i>
Desmond, Frederick James	<i>Beverly</i>
Dimmick, Meriel Lapham	<i>Newburyport</i>
Donohue, Paul Aloysius	<i>Springfield</i>
Dorenbaum, Philip	<i>Springfield</i>
Doucet, Louis Philip	<i>Manchester, N. H.</i>
Epstein, Nathaniel	<i>Woonsocket, R. I.</i>
Farquhar, Andrew George	<i>Gilbertville</i>
Ferrin, Joseph Leo	<i>Lawrence</i>
Fialho, Joseph Augusto	<i>Gloucester</i>
Finkelstein, Nathan Harry	<i>East Boston</i>
Finkelstein, Paul Samuel	<i>Dorchester</i>
Francis, Lewis Abbott	<i>Malden</i>
Gaudet, Joseph Yvon	<i>St. Joseph's, N. B.</i>
Getchel, Robert Emmet	<i>Waltham</i>
Ginn, David Clifton	<i>West Somerville</i>
Goldbarg, Alexander	<i>Boston</i>
Goodspeed, Frank Luther	<i>North Abington</i>
Greeley, Francis Joseph	<i>Boston</i>
Greene, Thomas Francis	<i>Lawrence</i>
Harris, Frank Edward	<i>Stoneham</i>
Haskell, Harvey LeRoy	<i>Dexter, Me.</i>
Hatch, Charles Elliot	<i>Dark Harbor, Me.</i>
Hogan, Myles Thomas	<i>Cambridge</i>
Jaffee, Nathan Israel	<i>Brockton</i>
Johnstone, Alexander Patterson	<i>Waltham</i>
Keene, Stanley Clifford	<i>Roslindale</i>
Kells, Walter Donovan	<i>Greenfield</i>
Kelly, Clifford Earland	<i>Leominster</i>
Keltie, Alexander Leslie	<i>Jamaica Plain</i>

Kennedy, Walter Joseph	<i>Lawrence</i>
Krasnoo, Samuel	<i>Revere</i>
Lafayette, Theodore Edward, Jr.	<i>East Watertown</i>
LeBlanc, Jules Arthur (B.A., St. Joseph's Univ.)	<i>Moncton, N. B.</i>
Lesser, Louis	<i>Dorchester</i>
Litner, Maurice	<i>Chelsea</i>
Luciano, Angelo	<i>Somerville</i>
Lynch, Richard Alphonsus	<i>South Boston</i>
Mackey, William John	<i>Lenox</i>
Maher, William Henry	<i>Brockton</i>
Mahoney, John Joseph	<i>Dorchester</i>
Maloney, Charles Leo	<i>Newton</i>
Marjerison, Howard Mitchell	<i>Lawrence</i>
Mauss, Charles Wendell	<i>Hingham</i>
McGrath, Martin Henry	<i>Natick</i>
McKenna, John Henry	<i>Hyde Park</i>
Moultis, Frank Walsh	<i>Springfield</i>
O'Donnell, Richard Joseph	<i>Lynn</i>
O'Leary, Thomas Bernard	<i>Dorchester</i>
O'Neil, Gerald Bernard	<i>Chicopee Falls</i>
Orr, Lauriston Ellis	<i>Dryden, Me.</i>
Ouimet, Arcade Joseph (B.S., Laval University)	<i>Leominster</i>
Paradis, Etienne, Jr.	<i>Manchester, N. H.</i>
Parks, James William Marsden, Jr.	<i>Somerville</i>
Parsons, Willis Burleigh	<i>Cliftondale</i>
Pierce, Abijah Davenport	<i>Greenfield</i>
Pierce, Edmund Andrew	<i>New Bedford</i>
Reed, Mossman Gardner	<i>Houlton, Me.</i>
Reed, William Edward	<i>Somerville</i>
Rhangos, Castas Basilios	<i>Manchester, N. H.</i>
Roche, Edwin James	<i>Providence, R. I.</i>
Rye, Edwin Leroy	<i>Norwood</i>
Schofield, John Miller	<i>Whitinsville</i>
Sewell, John Emery	<i>Gibson, N. B.</i>
Smith, George Roy	<i>Hampton Station, N. B.</i>
Smith, Roy Weir	<i>Everett</i>
Souza de, Francisco Lopez	<i>Santo Antas, Cape Verde Is.</i>
Spack, Maurice	<i>Chelsea</i>
Spears, Everett Eaton	<i>Roxbury</i>
Staples, Edward John	<i>South Portland, Me.</i>
Stevens, Marion Cecelia	<i>Reading</i>
Stolovsky, Samuel	<i>Lebanon, N. H.</i>
Streker, Joseph Alfred	<i>Providence, R. I.</i>

Stritch, Bertram Edward	<i>Gilbertsville</i>
Tannebring, Chester Henry	<i>Three Rivers</i>
Thomas, John Donoclift	<i>Somerville</i>
Tobin, William James	<i>Bristol, R. I.</i>
Todd, Joseph Donald	<i>South Boston</i>
Vandervoort, Charles Fraiser	<i>Paterson, N. J.</i>
Volk, Walter Jacob	<i>Cambridge</i>
Walker, William Dodge (A.B. Dartmouth Coll.)	<i>Manchester, N. H.</i>
Wall, William Tracy	<i>Weymouth</i>
Westphal, Edward Herman	<i>Webster</i>
Widdowson, Frank Xavier	<i>Holyoke</i> (A.B., Holy Cross College)
Wolff, Bruce McClellan	<i>Boston</i>
Wovsaniker, Louis	<i>Boston</i>

First Year

Alpers, Harry	<i>Salem</i>
Anderson, John Frank	<i>Greenwood</i>
AuCoin, Augustus Medrick	<i>Bangor, Me.</i>
Austin, Ralph Wilmer	<i>Quincy</i>
Bardwell, Emory Chester	<i>Monson</i>
Barnard, Robert Hyland	<i>Keene, N. H.</i>
Barone, Anthony	<i>Boston</i>
Barry, Fred Thomas	<i>Danvers</i>
Bearse, George Francis	<i>East Milton</i>
Bellefontaine, Edgar Paul	<i>Lowell</i>
Bennett, Harold Jones	<i>Monson</i>
Berubé, William Emerilde (A.B. St. Mary's Coll.)	<i>Skowhegan, Me.</i>
Besse, Harlan Frederic	<i>Concord, N. H.</i>
Bingham, Leslie Frederic	<i>Cambridge</i>
Bixby, Helen Alva Marion	<i>East Lynn</i>
Blackey, John Harold	<i>Brockton</i>
Blumerfield, Israel Michael	<i>Boston</i>
Bodin, Leroy George	<i>Florence</i>
Carr, Thurston Everard	<i>Worcester</i>
Chase, Frank Leonard	<i>Portland, Me.</i>
Cobb, Marion Julia	<i>Caryville</i>
Coffey, Albert Gaffney	<i>Nashua, N. H.</i>
Coggar, William Thomas	<i>St. John, N. B.</i>
Collier, Harry Conrad	<i>Worcester</i>
Commings, John Francis, Jr.	<i>St. Stephens, N. B.</i>
Cormier, Olivier Joseph, B.A.	<i>Shediac, N. B.</i>
Couillard, Rosaire Joseph	<i>Lowell</i>

Covell, Percival Wentworth	<i>Boston</i>
Crites, Llewellyn Lloyd	<i>Lewiston, Me.</i>
Crockett, Earl Gustavus	<i>Milford</i>
Crowe, Paisley Sommers	<i>Holbrook</i>
Dawidowitz, Frida	<i>Boston</i>
Deane, Laura Belle	<i>Lowell</i>
Delaney, Henry Raymond	<i>Fall River</i>
Dervin, Albert Henry	<i>Clinton</i>
Desmarais, Alfred George	<i>Somersworth, N. H.</i>
Deyoe, Ralph Jacob	<i>Vergennes, Vt.</i>
Dick, John Gilbert Temple	<i>Boston</i>
Dixon, Arthur, M.D.	<i>Boston</i>
Donahoe, Theodore Patrick	<i>Winthrop</i>
Donohoe, William Frederick	<i>Lowell</i>
Dowd, Aloysius Francis	<i>Manchester, N. H.</i>
Dowd, James Joseph	<i>Manchester, N. H.</i>
Doyle, Theresa Genevieve	<i>Biddeford, Me.</i>
Doyle, Thomas Owen	<i>Worcester</i>
Eagan, William Thomas	<i>Boston</i>
Eburne, Frank Edward	<i>Chelsea</i>
Ellison, Arthur True	<i>Spencer</i>
Fernald, Orrin Edgar	<i>Dover, N. H.</i>
Fierstein, Robert	<i>Providence, R. I.</i>
Finnigan, Walter John	<i>Worcester</i>
Foley, William Fergus	<i>Holyoke</i>
Ford, Wendell Phillips	<i>Dorchester</i>
Forgays, Raymond Gilbert	<i>Lowell</i>
Foster, Alice Sara	<i>Dorchester</i>
Fox, Charles Joseph	<i>Clinton</i>
Fox, Merwin Keith	<i>Chelsea</i>
Frechette, Emile August	<i>Worcester</i>
Frechette, Eugene Louis	<i>Worcester</i>
Fredette, Emile Raymond	<i>Linwood</i>
French, Albert Everard	<i>Winthrop, Me.</i>
Fuller, Frank, Jr.	<i>Fall River</i>
Garrard, Stanley Robert	<i>Boston</i>
German, George Henry	<i>Meteghan, N. S.</i>
Goodell, Edward Clark	<i>Shelburne Falls</i>
Goodman, Morris	<i>Chelsea</i>
Goodridge, John Greenough	<i>Lynn</i>
Gould, Ernest Moore	<i>East Dedham</i>
Grady, Henry Joseph	<i>S. Natick</i>
Grigg, Richard James	<i>Somerville</i>

Gutterson, Philip Cheever	<i>Fair Haven, Vt.</i>
Hackett, George Edward	<i>Worcester</i>
Haley, Russell Lowell	<i>Medford</i>
Hall, Stanley Edward	<i>West Newton</i>
Hardy, Irving Robinson	<i>Taunton</i>
Harrigan, Clarence Wilfrid	<i>Houlton, Me.</i>
Harrington, Joseph Gerard	<i>St. Johns, N. B.</i>
Hart, Harry Asahel	<i>Palmer</i>
Healy, Timothy Gerard	<i>West Newton</i>
Henriques, Sydenham	<i>Charlestown</i>
Henry, Edward Augustine	<i>Dorchester</i>
Hird, Walter Irving	<i>Dorchester</i>
Hoar, Martin Joseph	<i>Springfield</i>
Hooker, Alfred Lothrop	<i>Southampton</i>
Houle, Hervey Oliver	<i>Spencer</i>
Howard, William Leahy	<i>Lowell</i>
Hunt, John Clifton	<i>Boston</i>
Jewett, Fred Taylor	<i>Keene, N. H.</i>
Johnson, Harold Foster	<i>Waltham</i>
Jones, Harry Clinton	<i>Southampton</i>
Kapochy, Anthony Louis	<i>Shenandoah, Pa.</i>
Kedian, Harold Francis	<i>Roxbury</i>
Kearney, John Francis	<i>South Boston</i>
Kelley, Lawrence Eugene	<i>Jonesport, Me.</i>
Kennedy, James Bede	<i>Springfield</i>
Kearnan, James Joseph	<i>Collinsville</i>
Killory, John Francis	<i>Brockton</i>
Koff, William Leo	<i>Boston</i>
Krasnoff, Charles William	<i>Dorchester</i>
Labonte, John Edward	<i>Webster</i>
Lameri, Birney James	<i>Hardwick, Vt.</i>
Lane, Robert Joseph	<i>Wakefield</i>
Leggat, Horatius Bonar	<i>Lowell</i>
Littlefield, Otis Moulton	<i>Manchester, N. H.</i>
Lockwood, Walter Eugene	<i>East Jewett, N. Y.</i>
Lundgren, Raymond Axel	<i>Providence, R. I.</i>
Makay, Edgar Forester	<i>Waverley</i>
MacNeiley, John	<i>North Cambridge</i>
Martin, Willard Everett	<i>Franklin</i>
McAuliffe, John Joseph	<i>Lawrence</i>
McCann, John Joseph	<i>Lowell</i>
McCarthy, Timothy John, Jr.	<i>South Boston</i>
McCue, William Henry	<i>Milford</i>

McGowan, Fred Dennis	<i>Dover, N. H.</i>
McGrath, James Harold	<i>Taunton</i>
Mechaber, Benjamin	<i>New Bedford</i>
Merrill, Asa Forrest	<i>Lynn</i>
Milliken, William Anthony	<i>Dorchester</i>
Mintz, Annie	<i>Roxbury</i>
Moore, William Edward	<i>Herkimer, N. Y.</i>
Morse, Carlton Brett	<i>Hudson</i>
Morse, Myron Clarke	<i>Haverhill</i>
Mulcahy, Raymond Francis	<i>West Springfield</i>
Murphy, Frank Hill	<i>Brockton</i>
Murphy, John Ralph	<i>Medford</i>
Murray, Philip Irving	<i>Revere</i>
O'Gorman, Frederick Patrick	<i>So. Manchester, Conn.</i>
O'Hara, Thomas Edward	<i>Cambridge</i>
Owen, Richard Campbell	<i>Saco, Me.</i>
Palmer, Arthur Dodd	<i>Lynn</i>
Palmer, Ray Huntress	<i>Haverhill</i>
Parker, Clarence Ellwood	<i>East Lynn</i>
Porter, David	<i>Roxbury</i>
Power, John James	<i>Worcester</i>
Prizer, Alec	<i>Lynn</i>
Rollins, Fred Goldsmith	<i>Wollaston</i>
Rosenberg, Edward	<i>Roxbury</i>
Rosenbloom, Willis Abraham	<i>Boston</i>
Ruggles, Everett Hale	<i>Boston</i>
Ryan, Edward Francis	<i>Amesbury</i>
Ryan, Edward Michael	<i>Lowell</i>
Saunders, John Thomas	<i>Webster</i>
Sawyer, Bertram Hatch	<i>Salem</i>
Sawyer, Robert Nims	<i>Manchester, N. H.</i>
Scanlan, James Bernard	<i>Providence, R. I.</i>
Schlichte, George Anthony	<i>South Boston</i>
Segal, Samuel	<i>Dorchester</i>
Seidel, John Charles	<i>Biddeford, Me.</i>
Shapiro, Miriam	<i>Worcester</i>
Sleeper, Edwin	<i>West Somerville</i>
Smith, Abraham George	<i>Boston</i>
Smith, George Richard	<i>Fall River</i>
Smith, Herman Nelson	<i>Oak Bluffs</i>
Smith, Isidore Wilfred	<i>Leominster</i>
Speight, Stephen Lawrence	<i>East Longmeadow</i>
Staples, Bernard Francis	<i>Brooks, Me.</i>

Sternberg, Louis	<i>Boston</i>
Stewart, Donald Gordon	<i>West Fort William, Ont.</i>
Sullivan, Edward Francis	<i>Springfield</i>
Sullivan, George Thomas	<i>Dorchester</i>
Swett, Alton Houghton	<i>Weld, Me.</i>
Taft, Clarence Milton	<i>Keene, N. H.</i>
Tetault, Louis Eugene	<i>Southbridge</i>
Theriault, Wilfred Valentine	<i>Somerville</i>
Thompson, Ralph James	<i>Lancaster, N. H.</i>
Tolford, Ronald Joseph	<i>Portland, Me.</i>
Valladares, Maximo Angel	<i>Manicaragua, Cuba</i>
Vassiliou, Stephen Theodore	<i>Boston</i>
Weener, Joseph	<i>Boston</i>
Welch, William Francis	<i>Milford</i>
Whitney, Harold Snell	<i>Milford</i>
Whittaker, Walter Elton	<i>Chelsea</i>
Wildes, Robert Patten	<i>Skowhegan, Me.</i>
Williams, Arthur Francis	<i>Quincy</i>
Wilson, Arthur Clark	<i>Marblehead</i>
Wollison, Hammon Louis	<i>New Bedford</i>
Yeaton, Raymond Brelsford	<i>Amesbury</i>

Pre-Medical

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

One-Year Pre-Medical Course

Alden, Carmi Rupert	<i>Whitman</i>
Barnard, Frederick Joseph	<i>Meriden, Conn.</i>
Barstow, Carl Elijah	<i>Waltham</i>
Bartlett, Frank Herbert, Jr.	<i>East Lynn</i>
Baxley, Haughton Whitridge	<i>East Boston</i>
Boruchoff, Henry	<i>Malden</i>
Brackett, Nathaniel Parker	<i>Waltham</i>
Byrnes, James Edmund	<i>Holyoke</i>
Carey, Joseph Henry	<i>Manchester</i>
Carney, Harold Edwards	<i>Portland, Me.</i>
Cashman, Joseph Thomas	<i>Newburyport</i>
Clare, Wendell Phillips	<i>Stratham, N. H.</i>
Colby, Frances Elizabeth	<i>Allston</i>
Crane, Laurence Aloysius	<i>Lawrence</i>
Davis, Harry Eugene	<i>Portland, Me.</i>
Deitch, John	<i>Boston</i>
Devin, William Francis	<i>Westboro</i>
Dinneen, William Thomas	<i>Lynn</i>
Donovan, Paul Royal	<i>Concord, N. H.</i>
Dushensky, Samuel	<i>East Boston</i>
Eagan, Owen Louis	<i>Fall River</i>
Econom, Peter James	<i>New York, N. Y.</i>
Entwistle, Clayton Ross	<i>Monson</i>
Faith, Clarence Hoggson	<i>Newton</i>
Fedosink, John	<i>South Boston</i>
Feldman, Aaron	<i>Boston</i>
Feldman, Louis	<i>Boston</i>
Fitch, Emmett Chandler	<i>Mooers, N. Y.</i>
Fitch, Wilmer Herman	<i>Mooers, N. Y.</i>
Fitzgerald, Joseph William	<i>Bridgewater</i>
Fleury, Oswald Theodore	<i>Chicopee Falls</i>
Forsley, Thomas, Jr.	<i>Manchester, N. H.</i>
Friborg, Joseph Nathaniel	<i>Manchester, N. H.</i>
Gagne, Joseph	<i>Willimansett</i>
Gilman, William Henry	<i>Cambridge</i>
Golden, Harry	<i>Somerville</i>

Haffner, Ruth Clarissa	<i>Lawrence</i>
Iovanna, Nicholas	<i>Revere</i>
Isenberg, Isaac	<i>Boston</i>
Jackson, Cornelius Walters	<i>Asbury Park, N. J.</i>
Jackson, Edward Joseph	<i>Fall River</i>
Jasinsky, Simon John	<i>South Boston</i>
Johnson, Charles Franklin	<i>Henniker, N. H.</i>
Kaplan, Jacob Copel	<i>Boston</i>
Kinmouth, Raymond Arnold	<i>Brooklyn, Conn.</i>
Klubock, Maxwell	<i>Chelsea</i>
Kolodny, Joseph	<i>Boston</i>
Koppel, William	<i>Boston</i>
Korb, Harry	<i>Roxbury</i>
Lancey, Clifford Scales	<i>Townsend</i>
Leavitt, George David	<i>Haverhill</i>
Leighton, John Griffin	<i>Lowell</i>
LeMarbre, Albert Edward	<i>Salem</i>
Levin, Samuel	<i>Chelsea</i>
Lindblad, Eric Harry	<i>Avon</i>
Mahoney, Ralph Patrick	<i>Portland, Me.</i>
Marcus, Mary Arion	<i>Roxbury</i>
Marshall, Orland Smith	<i>Waltham</i>
Martin, Arthur Ellerby	<i>Fall River</i>
McDermott, Charles Francis	<i>Fall River</i>
McDonald, William James	<i>Westboro</i>
McDonnell, Joseph Leo	<i>Woonsocket, R. I.</i>
McGarry, Augustine, Wilfred	<i>Brighton</i>
McKenney, Frederick William	<i>Lynn</i>
McLaughlin, James Francis	<i>Manchester</i>
McLaughlin, Joseph Henry	<i>East Weymouth</i>
McLellan, Charles Joseph	<i>Hudson</i>
Meunier, Raymond Royale	<i>Indian Orchard</i>
Moore, Stevenson, Jr.	<i>Chicopee</i>
Murphy, Edward Patrick	<i>East Bridgewater</i>
Murphy, James Francis	<i>Roxbury</i>
Murphy, John Michael	<i>Abington</i>
Nash, Francis Joseph	<i>Westboro</i>
Normandin, Louis Adolphus, Jr.	<i>Fall River</i>
O'Keefe, John Andrew	<i>Providence, R. I.</i>
Ormsby, Edward Bernard	<i>Dorchester</i>
Paige, Wilbur Myrtland	<i>Lynn</i>
Penn, Harry	<i>Lawrence</i>
Phillips, Karl Tristram	<i>Amesbury</i>

Raleigh, Walter Melvin	<i>Springfield</i>
Reynolds, Frank Albert	<i>Dorchester</i>
Rittner, Max	<i>Boston</i>
Robert, John Baptiste Wilfrid	<i>Tilton, N. H.</i>
Ruggles, Ralph Hastings	<i>Ailantic</i>
Rust, George Stevens	<i>Manchester</i>
Sanborn, Louis Albert	<i>Newburyport</i>
Saunders, Sallie Harding	<i>Hopedale</i>
Segal, Joseph Nathaniel	<i>Boston</i>
Shay, Edward Francis	<i>Fall River</i>
Silberg, Morris Abraham	<i>Boston</i>
Slattery, Mary Julie	<i>Worcester</i>
Sporn, Abram	<i>Springfield</i>
Stanetsky, Harry Moses	<i>Boston</i>
Steinberg, Naaman	<i>Roxbury</i>
Sullivan, Frederick William	<i>Providence, R. I.</i>
Summons, Elmer Reuben	<i>Stratford, Conn.</i>
Tilton, Warren Norwood	<i>New Bedford</i>
Vershow, Nathan	<i>Boston</i>
Webber, Joseph Bernard	<i>Boston</i>
White, Earl Russell	<i>Attleboro</i>
Williams, Richard Joseph	<i>Lynn</i>
Williams, Walter Russell	<i>Roxbury</i>
Yochelman, Isidor	<i>Boston</i>
Yorshis, Philip	<i>Boston</i>

SUMMARY

Trustees 28

CORPS OF INSTRUCTION

Emeriti	10
President and Professors	50
Associate Professors	4
Assistant Professors	32
Lecturers	3
Instructors	93
Demonstrators	14
Assistant Demonstrators	7
Assistants	49
Total engaged in work of instruction	262
Other Officers, not previously counted	43

STUDENTS

GRADUATE SCHOOL	6
SCHOOL OF LIBERAL ARTS:	
Seniors	21
Juniors	40
Sophomores	37
Freshmen	83
Specials	2
Unclassified	10—193
ENGINEERING SCHOOL:	
Seniors	42
Junior s	25
Sophomores	45
Freshmen	59
Unclassified	5—176
CRANE THEOLOGICAL SCHOOL	13
JACKSON COLLEGE:	
Seniors	17
Juniors	18
Sophomores	17
Freshmen	37
Special	1
Unclassified	1—91
MEDICAL SCHOOL:	
Fourth Year	53
Third Year	69
Second Year	103
First Year	75
Special	1—301
ONE YEAR PRE-MEDICAL COURSE	104
DENTAL SCHOOL:	
Third Year	66
Second Year	111
First Year	177—354
BROMFIELD-PEARSON SCHOOL	12
Total registration of students	1250
Names appearing twice	9
Total number of students	1241

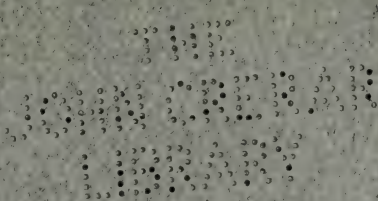
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TUFTS COLLEGE BULLETIN

General Catalogue

Annual Report of the President

Annual Report of the Treasurer

Catalogue of the Medical School

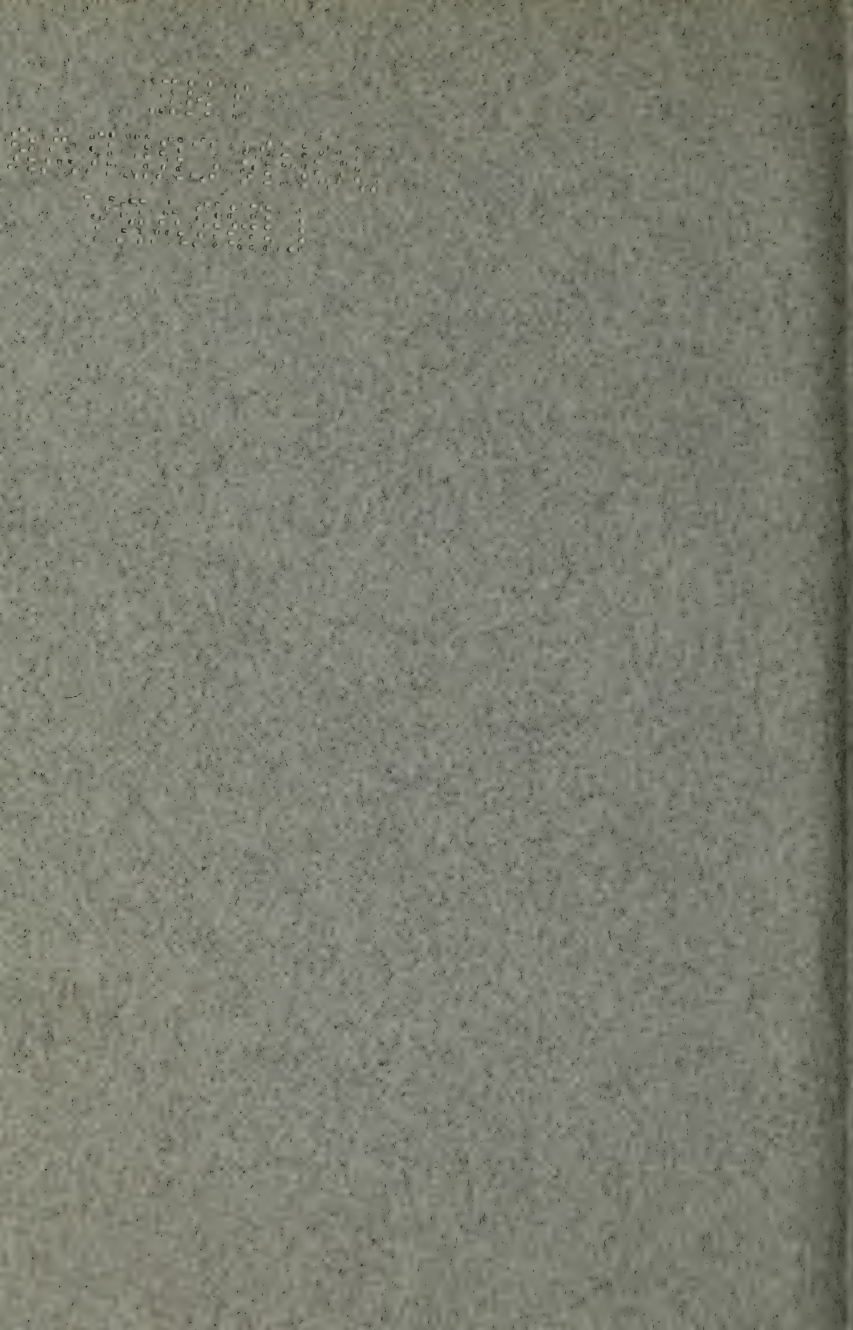
Catalogue of the Dental School

Announcement of the Engineering School

Announcement of the School of Liberal Arts

Announcement of Jackson College

Register of Officers and Graduates



TUFTS COLLEGE

Vol. XVI

BULLETIN

No. 2

DECEMBER, 1915


ANNUAL CATALOGUE

1915-1916

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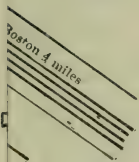
 The post-office address of the School of Liberal Arts, Jackson College for Women, the Engineering School, the Bromfield-Pearson School, and the Crane Theological School, is TUFTS COLLEGE, MASS.

The address of the Medical and Dental Schools is 416-430 HUNTINGTON AVENUE, BOSTON, MASS.

P OF OUNDS F OLLEGE



located at 416 - 430
ve., Boston.



College Buildings

- 1 WEST HALL (dormitory)
- 2 PACKARD HALL (Theological class rooms)
- 3 EAST HALL (dormitory)
- 4 CURTIS HALL (post-office, class rooms, and dormitory)
- 5 CHEMICAL LABORATORY
- 6 DEAN HALL (dormitory)
- 7 GODDARD GYMNASIUM (for men)
- 8 BARNUM MUSEUM (public museum, biological laboratory, and class rooms)
- 9 BALLOU HALL (main offices and class rooms)
- 10 GODDARD CHAPEL
- 11 EATON MEMORIAL LIBRARY
- 12 PAIGE HALL (Theological School dormitory)
- 13 MINER HALL (Jackson College class rooms)
- 14 ROBINSON HALL (Engineering laboratories and class rooms)
- 15 HOWE LABORATORY (power station)
- 16 BROMFIELD-PEARSON BUILDING (Engineering shops and class rooms)
- 17 METCALF HALL (dormitory for women)
- 18 START HOUSE (dormitory for women)
- 19 JACKSON GYMNASIUM (for women)
- 20 RICHARDSON HOUSE (dormitory for women)

Residences

PROFESSORS ROW

- 8 President Bumpus
- 14 Dean Anthony
- 20 Prof. Lewis
- 38 Prof. Durkee
- 48 Dean McColleston
- 72 Dean Davies
- 80 Zeta Psi House
- 92 Prof. Fay
- 98 Prof. Bray
- 106 Prof. Tousey
- 124 Prof. Hooper
- 128 Prof. Schmidt
- 134 Alpha Tau Omega House

SAWYER AVENUE

- 13 Delta Upsilon House
- 29 Prof. Ransom
- 37 The Commons Club
- 45 Prof. Earle, Prof. Seavey

TALBOT AVENUE

- 65 Dean Wren
- 101 Prof. Munro, Prof. Rollins

POWDER HOUSE BOULEVARD

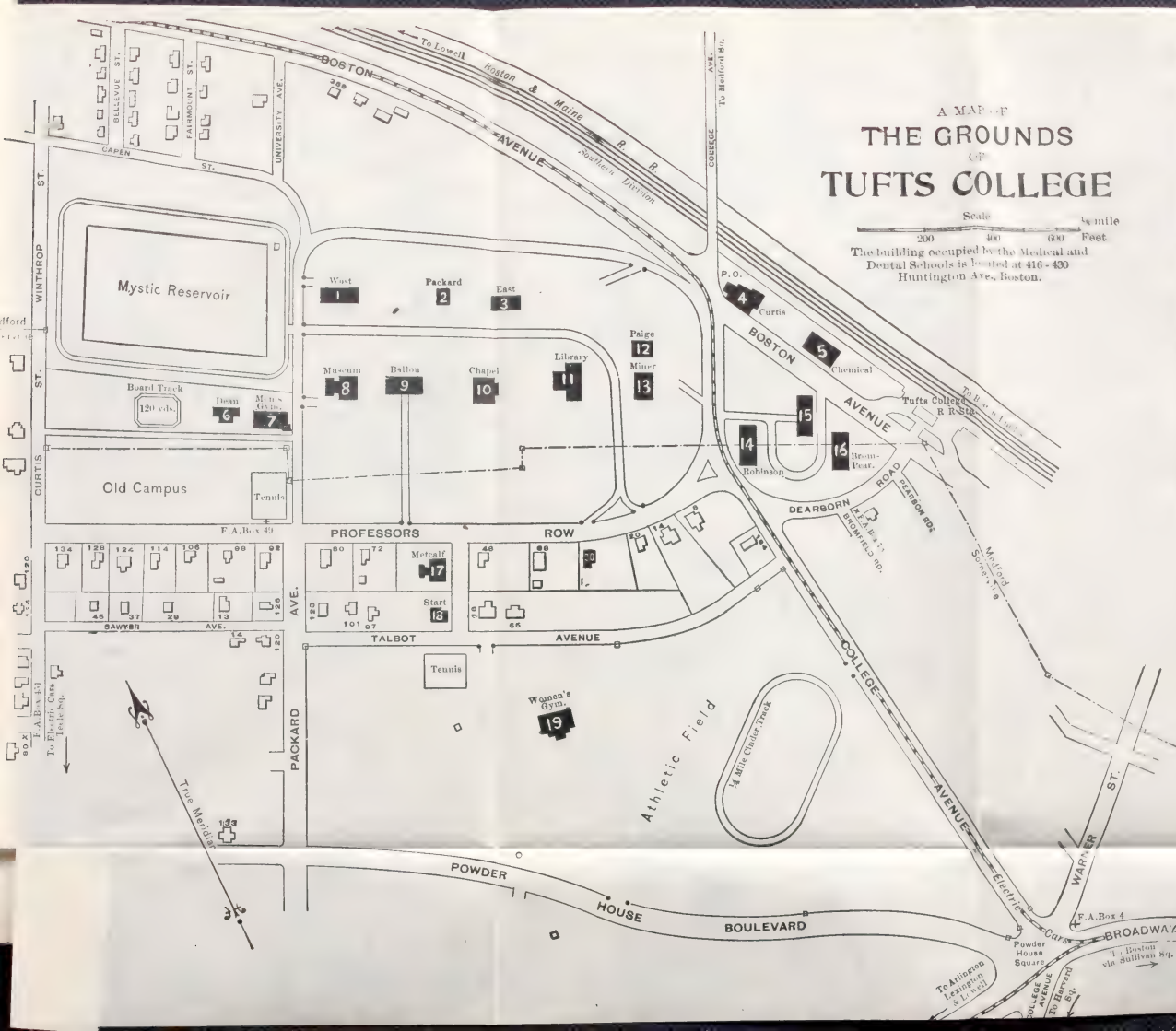
- 102 Prof. Skinner
- 133 Prof. Rockwell

CURTIS STREET

- 114 Prof. Harmon
- 120 Prof. Lambert

A MAP OF THE GROUNDS TUFTS COLLEGE

Scale 1/4 mile
200 400 600 Feet
The building occupied by the Medical and Dental Schools is located at 416-430 Huntington Ave., Boston.



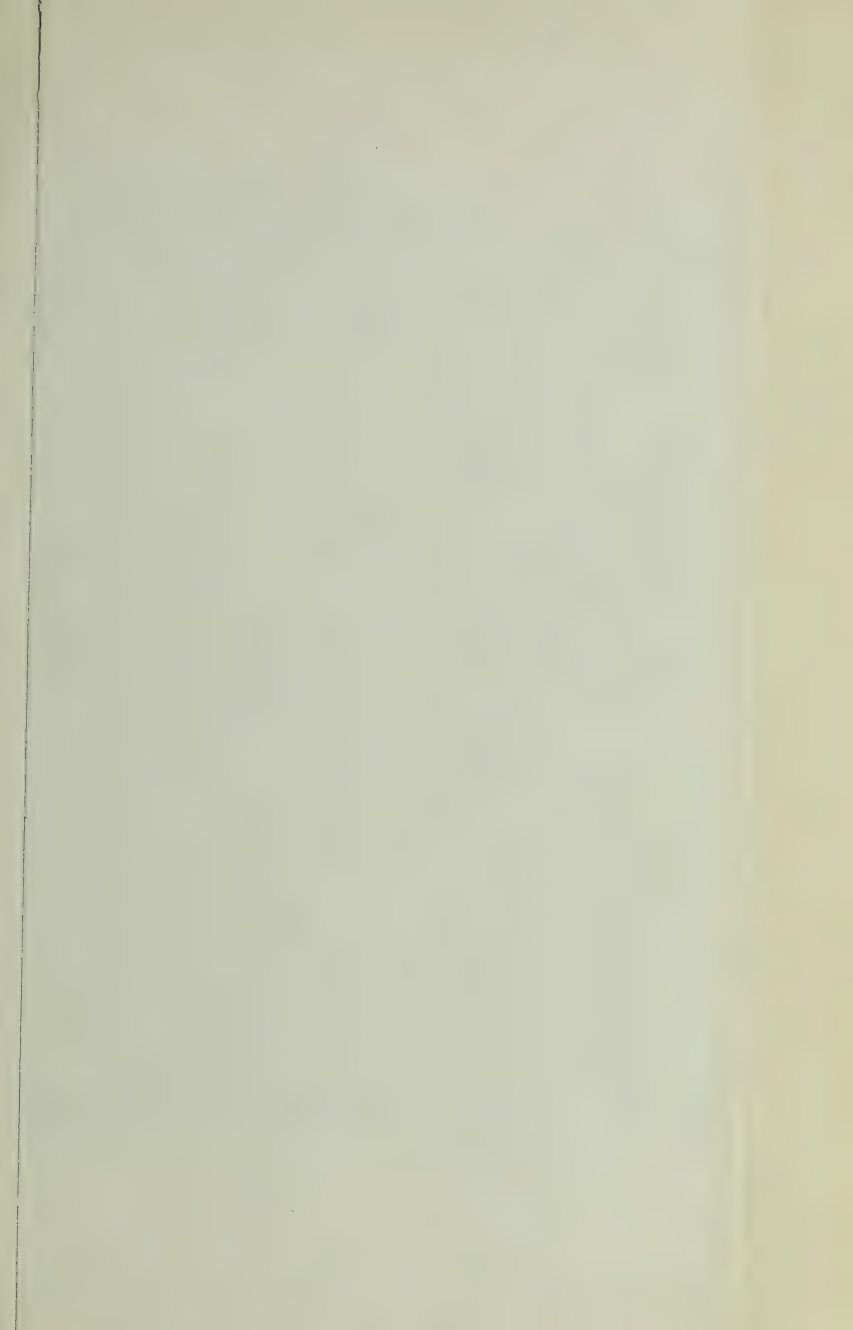
College Buildings

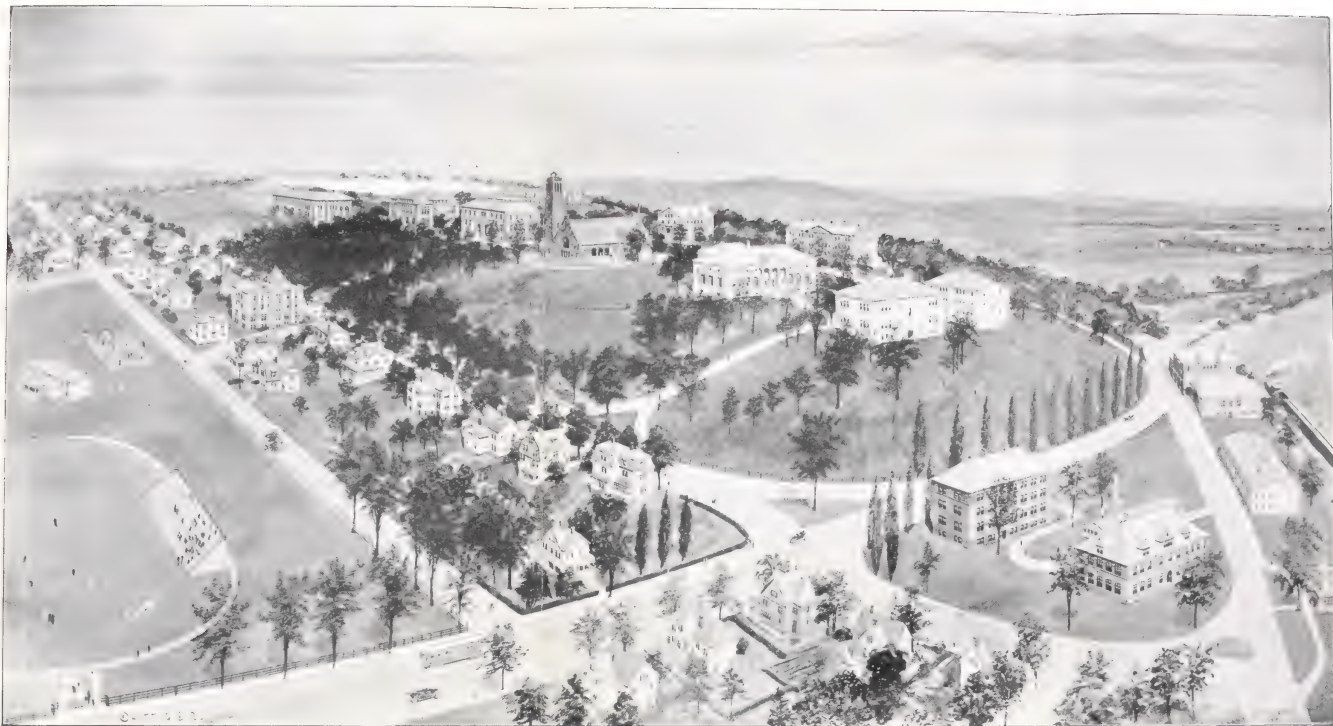
- 1 West Hall (dormitory)
- 2 PACKARD HALL (Theological class room)
- 3 EAST HALL (dormitory)
- 4 CURTIS HALL (post-office, class-rooms, and dormitory)
- 5 CHEMICAL LABORATORY
- 6 DEAN HALL (dormitory)
- 7 GORDON GYMNASIUM (gymnasium)
- 8 BARNES MUSEUM (public museum, biological laboratory, and class-rooms)
- 9 PATTER HALL (main offices and class-rooms)
- 10 GORDON GYMNASIUM
- 11 LATHROP MUSEUM (library)
- 12 PATTER HALL (Theological School dormitory)
- 13 MINER HALL (Jackson College class-rooms)
- 14 KENNEDY HALL (engineering laboratories and class-rooms)
- 15 HOOK LABORATORY (physiology)
- 16 ENGINEERING DEPARTMENT (Engineering shops and class-rooms)
- 17 MEDICAL HALL (dormitory for women)
- 18 SARGENT HOUSE (dormitory for women)
- 19 JACKSON GYMNASIUM (for women)
- 20 KILPATRICK HOUSE (dormitory for women)

Residences

- | | PROFESSORS' ROW |
|-----|----------------------------|
| 1 | President Emery |
| 11 | Dean Anthony |
| 20 | Prof. Lewis |
| 18 | Prof. Barker |
| 48 | Dean McCullough |
| 2 | Dean Davies |
| 80 | Zeta Psi House |
| 92 | Prof. Fay |
| 98 | Prof. Bray |
| 106 | Prof. Tansy |
| 124 | Prof. Hooper |
| 128 | Prof. Schmidt |
| 144 | Alpha Tau Omega House |
| | SAWYER AVENUE |
| 13 | Delta Upsilon House |
| 29 | Prof. Kelson |
| 47 | The Common Club |
| 45 | Prof. Earle, Prof. Seavey |
| | TALBOT AVENUE |
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| | ROVER HOUSE BOULEVARD |
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| 133 | Prof. Rockwell |
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| 111 | Prof. Hamon |
| 120 | Prof. Landolt |
| | PACKARD AVENUE |
| 120 | Prof. Leonard |
| 123 | Theta Delta Chi House |
| 126 | Prof. Neal |
| | LATHROP WAY |
| 18 | Delta Tau Delta House |
| | CURTIS AVENUE |
| 163 | Sigma Tau Alpha House |
| 184 | Prof. Bolles |
| | DEACONS ROAD |
| 12 | Prof. Andrews |
| 60 | Mr. Knight |
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| 61 | Mr. Hodge |
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TUFTS COLLEGE

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TUFTS COLLEGE CATALOGUE

CATALOGUE
OF
TUFTS COLLEGE
1915-1916



SCHOOL OF LIBERAL ARTS
JACKSON COLLEGE FOR WOMEN
ENGINEERING SCHOOL
BROMFIELD-PEARSON SCHOOL
CRANE THEOLOGICAL SCHOOL
GRADUATE SCHOOL
PRE-MEDICAL COURSE
MEDICAL SCHOOL
DENTAL SCHOOL

EW

The purpose of this publication is to give information to those who may desire to become students of Tufts College, and to provide a book of reference.

It is the policy of the College not to introduce changes in requirements for admission without due notice in the catalogue, and not to impose additional requirements upon classes already enrolled. Changes in the curriculum and in the program occasionally may be necessary, and under such circumstances equitable adjustment is made.

The College issues certain supplementary publications, such as historical reviews, descriptions of the several Schools, etc.

The Registrar will be glad to answer inquiries, and an invitation to visit the College is extended to those who may desire to do so.

Tufts College

While the College owed its beginning to the efforts and to the support of members of the Universalist denomination, the charter provided that "No instructors in said College shall ever be required by the Trustees to profess any particular religious opinions as a test of office, and no student shall be refused admission to or denied any of the privileges, honors, or degrees of said college, on account of the religious opinions he may entertain."

Its purpose is to provide substantial instruction in fundamental subjects, and to encourage those who are eager to make use of its educational opportunities, in order that they may improve themselves and thus contribute to the general improvement of the community.

To this end the institution is using a large endowment and is enlisting the support of graduates and friends. The Faculty aims not only to teach, but to ascertain the intellectual deficiencies and proficiencies of the students, and through personal effort and sympathetic counsel to strengthen the places wherein they are weak and to develop to the utmost the places wherein they are strong.

Tufts College does not desire to enlarge its enrollment with those who seek leisure, or who look lightly upon college work, but it will do its utmost to help those who come to it with the fixed purpose of profiting by what it can give.

LOCATION OF TUFTS COLLEGE

The Buildings and Grounds in Somerville and Medford

The original buildings were located on Walnut Hill in Somerville and Medford—adjoining the City of Boston—and about five miles from the State House. Several car lines run directly to the College Grounds. The campus is large, embracing about eighty acres. There are twenty buildings used for educational and dormitory purposes. These with the grounds have an estimated value of \$1,335,000. Here are

located the School of Liberal Arts, Jackson College for Women, the Engineering School, the Bromfield-Pearson School, the Crane Theological School, and the Graduate School.

The Buildings and Grounds in Boston

In 1893 the Tufts College Medical School was established, and in 1899 the Boston Dental College was taken over by legislative sanction. These professional schools are located in the Medical-Dental Building, 416 Huntington Ave., Boston, Mass. The land and buildings represent an investment of \$201,500. There are 69,000 square feet of floor space divided into lecture rooms, laboratories, offices, etc.

The College has an interest in the Biological Laboratory at South Harpswell, Maine, which enables it to offer special privileges to officers and students.

The College is fortunate in its location. Student life at "The Hill" is substantially like that of the smaller colleges in New England. The students and Faculty form a community, the members of which are well acquainted with each other, and there are many social interests that are held in common. A close intimacy between the Faculty and the student body has always prevailed.

The proximity of Boston makes it easy for students to avail themselves of the libraries, museums, and other social, educational, and cultural facilities that are offered by a large city. Students receive material benefit from the privileges offered by business houses, manufacturing plants, and other institutions.

The Medical-Dental Building is not far from the Library of the Boston Medical Association, central to the larger hospitals, dispensaries, and clinics, and near a score or more of scientific and educational institutions.

The control of the College is vested by the charter in a Board of Trustees, ten of whom are elected by the Alumni. The immediate control of the educational work rests with the several Faculties.

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PART I

THE ASSOCIATED SCHOOLS

(Located at "The Hill")

SCHOOL OF LIBERAL ARTS

(Giving the degrees of A.B. and B.S.)

JACKSON COLLEGE FOR WOMEN

(Giving the degrees of A.B. and B.S.)

ENGINEERING SCHOOL

(Giving the degree of B.S.)

BROMFIELD-PEARSON SCHOOL

(One-year course. No degree)

CRANE THEOLOGICAL SCHOOL

(Giving the degree of S.T.B.)

GRADUATE SCHOOL

(Giving the degrees of A.M. and M.S.)

A Pre-Medical Course providing instruction equivalent to one year of college work is conducted at the Medical-Dental Building, but the instruction is given under the direction of the School of Liberal Arts.

Calendar — 1916

JANUARY							MAY							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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16	17	18	19	20	21	22	21	22	23	24	25	26	27	17	18	19	20	21	22	23
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30	31																			
FEBRUARY							JUNE							OCTOBER						
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20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
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MARCH							JULY							NOVEMBER						
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							30	31												
APRIL							AUGUST							DECEMBER						
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2	3	4	5	6	7	8	6	7	8	9	10	11	12	3	4	5	6	7	8	9
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23	24	25	26	27	28	29	27	28	29	30	31			24	25	26	27	28	29	30
30														31						

Calendar of the Associated Schools

1916

- JAN. 2. Christmas recess ends, Sunday Evening.
FEB. 4-9. Mid-year examinations.
FEB. 9. End of the first half-year, Wednesday.
FEB. 14. Second half-year begins, Monday. Registration.
FEB. 22. Washington's Birthday. Exercises are suspended.
APRIL 12. Spring recess begins, Wednesday evening.
APR. 19. Spring recess ends, Wednesday evening.
MAY 12. Goddard Prize Readings, Friday, 8 P.M. (Goddard Chapel).
MAY 20. Senior Theses in Engineering School due.
MAY 26-29. Senior examinations in the Engineering School.
MAY 30. Memorial Day. Exercises are suspended.
JUNE 10-15. Final examinations.
JUNE 16. Class Day, Friday.
JUNE 18. Baccalaureate Sermon, Sunday, 4 P.M. (Goddard Chapel).
JUNE 21. Annual Commencement, Wednesday.
JUNE 19-24. Entrance examinations conducted by the College Entrance Examination Board.

Summer Vacation, Thirteen Weeks

- SEPT. 14-16. Entrance examinations given in Ballou Hall, Tufts College, Mass. For the schedule see "Admission by Examination."
SEPT. 21. College year begins, Thursday morning. Registration.
OCT. 12. Columbus Day. Exercises are suspended.
OCT. 15. Russell Lecture, Sunday, 4 P.M. (Goddard Chapel)
NOV. 15. Announcement of Academic Honors, 12 M. (Goddard Chapel)
NOV. 30. Thanksgiving Day. Exercises are suspended.
DEC. 20. Christmas recess begins, Wednesday evening.

1917

- JAN. 3. Christmas recess ends, Wednesday evening.
FEB. 2-7. Mid-year examinations.
FEB. 7. End of first half-year, Wednesday.
FEB. 12. Second half-year begins, Monday. Registration.
FEB. 22. Washington's Birthday. Exercises are suspended.
APRIL 18. Spring recess begins, Wednesday evening.
APRIL 25. Spring recess ends, Wednesday evening.
MAY 11. Goddard Prize Readings, Friday, 8 P.M. (Goddard Chapel).
MAY 30. Memorial Day. Exercises are suspended.
JUNE 9-14. Final examinations.
JUNE 17. Baccalaureate Sermon, 4 P.M. (Goddard Chapel).
JUNE 20. Annual Commencement, Wednesday.

Faculty of the Associated Schools

The post office address is Tufts College, Mass., unless otherwise indicated.

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HERMON CAREY BUMPUS, PH.D., SC.D., LL.D. . 8 Professors Row

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*Goddard Professor of Homiletics and Pastoral Theology,
and Dean of the Crane Theological School*

CHARLES DURLIN BRAY, C.E., A.M. 98 Professors Row
Mechanical Engineering

GEORGE MILFORD HARMON, A.M., D.D. 114 Curtis St.
Biblical Theology

Professors

Arranged in the order of their service at Tufts.

CHARLES ERNEST FAY, A.M., LITT.D. 92 Professors Row
*Wade Professor of Modern Languages, and Dean of the
Graduate School*

WILLIAM GEORGE TOUSEY, A.M., S.T.D. . . 106 Professors Row
Logic and Ethics

- WILLIAM LESLIE HOOPER, A.M., PH.D. . . . 124 Professors Row
Electrical Engineering
- FRANK WILLIAMS DURKEE, A.M. 38 Professors Row
Chemistry
- LEO RICH LEWIS, A.M. 20 Professors Row
History and Theory of Music
- GARDNER CHACE ANTHONY, A.M., Sc.D. . . 14 Professors Row
Technical Drawing, and Dean of the Engineering School
- FRANK GEORGE WREN, A.M. 65 Talbot Ave.
*Walker Professor of Mathematics, and Dean of the School of
Liberal Arts*
- SAMUEL CHANDLER EARLE, A.M. 45 Sawyer Ave.
English
- CHARLES HARRIS CHASE, S.B. 39 Lincoln St., Stoneham
Steam Engineering
- FRED DAYTON LAMBERT, A.M., PH.D. 120 Curtis St.,
Botany W. Somerville
- WILLIAM KENDALL DENISON, A.M. . 42 Fletcher St., Winchester
Latin Language and Literature
- HENRY CLAYTON METCALF, A.B., PH.D. . . . 31 Sheffield Road,
Jackson Professor of Political Science Winchester
- EDWIN CORTLANDT BOLLES, A.M., PH.D., D.D., LL.D.
Dickson Professor of English and American History 184 College Ave.
- WILLIAM RICHARD RANSOM, A.M. 29 Sawyer Ave.
Mathematics
- FRANK BERRY SANBORN, C.E., M.S. 8 Buena Vista Park,
Civil Engineering N. Cambridge
- EDWARD HENRY ROCKWELL, S.B. 133 Powder House Boulevard,
Structural Engineering W. Somerville
- ALFRED CHURCH LANE, A.M., PH.D., Sc.D. . . 22 Arlington St.,
Pearson Professor of Geology and Mineralogy N. Cambridge
- HENRY IRVING CUSHMAN, A.M., D.D. 26 Pitman St.,
Homiletics Providence, R. I.
- CAROLINE STODDER DAVIES, A.M. 72 Professors Row
English and Dean of Jackson College for Women
- HINCKLEY GILBERT MITCHELL, D.D. . 36 Pinckney St., Boston
Hebrew and Old Testament Exegesis

ARTHUR IRVING ANDREWS, PH.D.	12 Dearborn Rd.
<i>History and Public Law</i>	
KARL SCHMIDT, A.M., PH.D.	128 Professors Row
<i>Philosophy and Education</i>	
LEE SULLIVAN MCCOLLESTER, D.D.	48 Professors Row
<i>Packard Professor of Christian Theology, and Dean of Crane Theological School</i>	
HERBERT VINCENT NEAL, PH.D.	126 Packard Ave.
<i>Zoology</i>	
CLARENCE RUSSELL SKINNER, A.M.	102 Powder House Blvd.
<i>Woodbridge Professor of Applied Christianity</i>	W. Somerville
CHARLES HENRY GRAY, PH.D.	59 Dartmouth St., Winter Hill
<i>English</i>	

Assistant Professors

Arranged in the order of their service at Tufts.

GEORGE FRANCIS ASHLEY	47 Avon St., Somerville
<i>Technical Drawing</i>	
EDWIN BUTLER ROLLINS, B.S.	101 Talbot Ave.
<i>Electrical Engineering</i>	
MELVILLE SMITH MUNRO, B.S.	101 Talbot Ave.
<i>Electrical Engineering</i>	
WILLIAM HOWELL REED, A.M.	81 Walnut Ave., Roxbury
<i>Modern Languages</i>	
ALEXANDER DILLINGHAM, A.M.	47 Curtis Ave.
<i>Mathematics</i>	
FRANK ELIAS SEAVEY, A.B.	45 Sawyer Ave.
<i>English in the Engineering School</i>	
RICHARD CURTIS SMITH, B.S.	15 Warren St., W. Medford
<i>Structural Engineering</i>	
SAMUEL LUCAS CONNER, M.S.	21 Bellevue St.
<i>Railroad Engineering</i>	
HOWARD HASTINGS CARROLL, B.S.	66 Wyman St., W. Medford
<i>Technical Drawing</i>	
ALBERT HATTON GILMER, A.M.	3 Spruce St., Boston
<i>English</i>	
HENRY HOWARD MARVIN, B.S., PH.D.	59 W. Adams St.
<i>Physics</i>	
EUGENE HOWARD BABBITT, A.B.	73 Batavia St., Boston
<i>Modern Languages</i>	

Instructors

- CONRAD ARNOLD ADAMS, B.S. . . 38 Whitfield Rd., W. Somerville
Mechanic Arts
- FREDERICK OTTO ASPINWALL, B.S. 19 Fairmount St.
Chemistry
- CROSBY FRED BAKER, M.S. 75 Pearson Rd., W. Somerville
Chemistry
- HARRY POOLE BURDEN, B.S. . . 34 W. Adams St., W. Somerville
Civil Engineering
- LOUIS RAYMOND BURNETT, M.D. . . 11 Everett St., Cambridge
Physical Education
- JOSEPH CHANDLER, PH.D. 7 Eastman St.
Organic Chemistry
- MYRON JENNISON FILES, A.B. Dean Hall, 6
English in the Engineering School
- MERRILL CRISTY HILL, A.M. 135 North St., W. Somerville
Modern Languages in the Engineering School
- JOHN LOUIS CHARLES KEEGEN, A.M. West Hall, 8
English and Assistant to Dr. Bolles
- NATHANIEL HOBBS KNIGHT, B.S. 65 Pearson Rd.
Physics
- EDGAR MACNAUGHTON, M.E. 88 Quincy St.
Mechanical Engineering
- MARY CALDWELL MURRAY Start House
Physical Education in Jackson College
- FRANCIS O'MEARA, M.S. 72 Mapleton St., Brighton
Chemistry
- FRANK WALTER POTE, B.S. 45 Dearborn St., Medford
Physics
- HAROLD JAMES POWER, B.S. P.O. Box 55
Radio-Engineering
- HARRIS RICE, S.B. 10 Fairmount St.
Walker Special Instructor in Mathematics
- RALPH BYRON WILSON, A.M. . . . 28 Whitman St., W. Somerville
Political Science
- WILLIAM FRANK WYATT, PH.D. 12 Curtis Ave.
Greek

Assistants

- ELEANOR HAYWOOD, A.B. 97 Talbot Ave.
Political Science
- RALPH OLIVER PHILLIPS, B.S. Σ T A House
Chemistry

Administrative Office of the Associated Schools

- MASON EDWARD BENNETT 54 Lyman Ave., Medford
Clerk in the Office of the Dean of the Engineering School
- GEORGE TIMOTHY COLLINS Ballou Hall
Assistant to the President
- HELEN BEATRICE CROCKER Metcalf Hall, 4
Assistant in the Office of the Dean of Jackson College
- LESLIE NATHANIEL GEBHARD, LL.B. 7 Edison Ave.
Secretary to the Dean of the Engineering School
- WILHELMINE HAZEL LANGDELL 253 Salem St., Malden
Assistant in the College Office
- MARION WARD RAYMENTON Richardson House, 3
Assistant in the Office of the Dean of Jackson College
- BEULAH SUSIE TILLOTSON 55 High St., Everett
Clerk in the Office of the Dean of the Crane Theological School
- MARION VIOLA WILSON 17 Egerton Rd., Arlington
Assistant in the College Office
- NELLIE ALVIRA WRIGHT 245 Medford St., Somerville
Acting Registrar

-
- CLAYTON CREE SPENCER West Hall, 16
Stock Room Clerk in Chemical Laboratory
- FRANK GUSTAVE WAHLEN East, 12
Machinist in the Engineering School

Foreman of the Grounds and Buildings

- GEORGE WISEMAN HENSON . . . 391 Boston Ave., Tufts College

House Mistresses

- MRS. LAURA E. LEWIS
Richardson House
- MISS MARY C. MURRAY
Start House
- MRS. GRACE G. WATERMAN
Metcalf Hall

Medical Advisers

- JOHN ALLAN McLEAN, M.D. 16 Curtis St., W. Somerville
Medical Adviser for the Men's Dormitories
- EMMA JULIA WAGNER, M.D. . . 370 Highland Ave., W. Somerville
Physical Examiner in Jackson College

Russell Lecturer, 1916

- MARION DANIEL SHUTTER, D.D. Minneapolis, Minn.

Library Staff

- HELEN LOUISE MELLEN 58 Curtis St., W. Somerville
Librarian, Emeritus
- ETHEL MUNROE HAYES, A.B. 252 Medford St., Somerville
Acting Librarian
- BLANCHE HEARD HOOPER, A.B. 124 Professors Row
Assistant Librarian
- FRANCIS JOEL FOSTER 11 Emery St.
Assistant
- CARL ALPHONSO MARSH Δ T House
Assistant

Curators of Buildings

- Ballou Hall Dean Wren
- Barnum Museum Professor Neal
- Bromfield-Pearson Building Dean Anthony
- Chapel Professor Lewis
- Chemical Laboratory Professor Durkee
- Curtis Hall Professor Earle
- Gymnasium Dr. Burnett
- Library Miss Hayes
- Miner Hall Dean Davies
- Packard Hall Dean McCollester
- Robinson Hall Professor Rollins
- Women's Gymnasium Miss Murray

The Organization of the Faculties

Each of the Associated Schools has its own Faculty and Standing Committees. An officer may serve on several faculties, and students of several schools may attend one and the same class exercise. Since the several faculties have many interests in common, they unite in joint session as a Faculty of Arts and Sciences.

The Faculty of Arts and Sciences regularly convenes on the first Monday of each month, and has the following Standing Committees:

ADMISSIONS: Dean Wren, *Chairman*; Dean Anthony, Professor Reed.

ABSENCES AND PETITIONS: Dean Wren, *Chairman*; Deans Anthony and McCollester, and Professor Reed.

COMMON INTERESTS: President Bumpus, *Chairman*; Deans Wren, Anthony, McCollester, Fay, and Davies.

COMMENCEMENT PARTS: President Bumpus, *Chairman*; Deans Wren, Anthony, McCollester, and Fay.

SCHOLARSHIPS AND AIDS: President Bumpus, *Chairman*; Deans Wren, Anthony, McCollester and Professor Reed.

LIBRARY: President Bumpus, *Chairman*; Professors Fay, Metcalf, Hooper, and Gray.

PROGRAM: Dean Wren, *Chairman*; Deans Anthony and McCollester.

EXAMINATIONS: Dean Wren, *Chairman*; Dean Anthony, Professor Denison.

CATALOGUE: Dean Anthony, *Chairman*; Professors Denison and Gilmer.

BOOKS AND SUPPLIES: Professor Lewis, *Chairman*; Professors Durkee, Ashley, and Conner.

MEMBERS ON THE PART OF THE FACULTY OF ARTS AND SCIENCES OF THE BOARD OF DIRECTORS OF ATHLETICS: Dean Wren, *Chairman*; Dean Anthony, Dr. Burnett.

STUDENT ORGANIZATIONS: Professor Hooper, *Chairman*; Professors Anthony, Denison, Rockwell, and Seavey.

STUDENT EMPLOYMENT: Professor Metcalf, *Chairman*; Professors Gilmer and Carroll.

USE OF COLLEGE BUILDINGS: Professor Hooper, *Chairman*; Professor Rollins and Dr. Burnett.

BOARD OF EDITORS OF TUFTS COLLEGE STUDIES: President Bumpus, *Chairman*; Professors Fay, Neal, Metcalf, and Rockwell.

Requirements for Admission

Adopted by the Faculty of Tufts College, May 3, 1915

Candidates for admission to the School of Liberal Arts, Jackson College for Women, the Engineering School and the Crane Theological School must have received adequate preparation in certain subjects, aggregating fifteen units which fall in the groups mentioned below. In these groups the values of the several subjects are given in units. Each unit "represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work."

1. Prescribed Group

All of the following, which aggregate 8 units

English 1	1½
English 2	1½
Foreign Language	2†
History	1‡
Algebra A1	1
Plane Geometry	1

2. Elective Group

A sufficient number of the following to aggregate . . 4 units

Foreign Language 1, or 2, or 3, or 4†	
History	1 or 2‡
Algebra A2	1
Physics	1
Chemistry	1
Solid Geometry	½
Trigonometry	½
Freehand Drawing	½

3. Free Margin Group

This group may be made up of any subjects (not counted in the previous groups) which an approved secondary school counts toward graduation, and which are certified by the Principal to be equivalent to 3 units

Total	15 units
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†The foreign languages offered for admission are to be selected from the following: Latin, Greek, French, and German. Two, 3 or 4 units may be counted in Latin, and either 2 or 3 units in Greek, French or German. Any other foreign language in which systematic instruction has been received for a period of at least two years may be counted for 2 units.

‡Ancient History, English History, or History and Government of the United States.

Candidates for the degree of Bachelor of Arts must present either 4 units in Latin or 3 in Greek.

Candidates for admission to the Engineering School must present two units in Algebra.

It is recommended that at least nine of the units presented for admission be confined to three subjects.

Detailed information concerning the amount and character of the work demanded in preparation will be found in the Appendix.

METHODS OF ADMISSION

Admission to Tufts College may be obtained by certificate, by examination, or by a combination of the two. Every candidate for admission must present a testimonial of good character from the principal under whom he was prepared for college.

Admission by Certificate

In order to make the transition from the school to the college more direct, Tufts College has an arrangement with certain high schools whereby students of good standing may pass from the high school directly into the College without the formality of examination. The conditions controlling this arrangement require that the school shall be on the approved list of the New England College Entrance Certificate Board, and that in certain subjects the pupil shall have completed with certificate grade the amount required for admission to the Freshman class of Tufts College.

The principals of the accredited schools are provided with blanks prepared for this purpose.

Certificates showing that candidates have fulfilled the admission requirements of another college or university will be accepted, in so far as they fulfill the conditions controlling admission to Tufts.

The academic diploma of the Regents of the State of New York will be accepted in satisfaction of the requirements for admission when such diploma covers the subjects required for entrance.

The student should make sure that the certificate upon which he intends to enter Tufts College is sent to the Registrar (Tufts College, Mass.) at the earliest possible date — preferably at the time of graduation — and that he receives from the College an acknowledgment assuring him that the certificate has been received and that his name has been enrolled.

All schools in New England which desire the certificate privilege should apply to the Secretary of the Board, Professor Frank W. Nicolson, Wesleyan University, Middletown, Conn., before April 1 of the year for which the certificate privilege is desired.

Applications for the certificate privilege for schools outside of New England should be made by the Principal on a blank provided for the purpose by the Registrar of the College. Applications should be received before April 1, in order that the school may be placed upon the approved list for the next academic year.

Admission by Examination

The examinations may be taken in June or in September, or a part in June and a part in September.

In June, 1916, the admission examinations of this College will be the examinations of the College Entrance Examination Board, of which Tufts College is a member. The examinations will be held during the week June 19–24, 1916, at Robinson Hall, Tufts College, Mass., and at other places to be announced by the Board.

For further information consult the Appendix or communicate with the Secretary of the College Entrance Examination Board, Hamilton Hall, P. O. Station H, New York, N. Y.

The September examinations are prepared and given by Tufts College in accordance with the following schedule :

September, 1916, Examinations for Admission to the Associated Schools

(These examinations will be given in Ballou Hall, Tufts College, Mass.)

- SEPT. 14. Elementary, Intermediate, and Advanced French, 9 to 11 ;
Elementary, Intermediate, and Advanced German, 11 to 1 ;
Elementary and Advanced Greek, Advanced Algebra and
Trigonometry, 2 to 5.
- SEPT. 15. Algebra, 9 to 10.30 ; English, 10.30 to 12.30 ; Plane Geometry,
2 to 4 ; Physics, 4 to 5 ; Drawing, 4 to 6.
- SEPT. 16. Elementary, Intermediate, and Advanced Latin, 9 to 12 ;
Solid Geometry, 9 to 11 ; Biology, Botany, Geography,
Geology, Zoology, and Economics, 11 to 1 ; History, 2 to 4 ;
Chemistry, 4 to 5.

Admission from other Colleges

Students of other colleges may be admitted to Tufts College under the following conditions:

They must present evidence that they have maintained creditable and honorable standing. They must present certificates showing in detail the amount and character of their college work. They must give satisfactory reasons for desiring transfer.

Such students will be enrolled as "unclassified" until they have demonstrated their qualifications and scholarship.

General Information

REGISTRATION

Having passed the entrance examinations of June or of September, or having been duly certified, the applicant for admission should at once ask the College office for registration blanks. These blanks should be filled out promptly and with fidelity, and returned to the Registrar.

The officers of Tufts College take an interest in the welfare of the student, and the value of the advice which they can give is in no small measure dependent upon the fullness with which the registration data are given.

A student who has filed his registration papers and paid to the Bursar a registration fee of five dollars, becomes enrolled as a member of the College, and is subject to its privileges and obligations.

THE FILING OF PROGRAMS

The program is a statement of the several studies that the student desires to pursue, the officers that are to give instruction and the places and hours at which the classes are to meet. Programs are prepared in accordance with the following schedule.

I. FOR STUDENTS IN THE SCHOOL OF LIBERAL ARTS, THE CRANE THEOLOGICAL SCHOOL, AND THE GRADUATE SCHOOL:

9.30 A.M.—On the “opening day” of the term (in September on Thursday, and in February on Monday), those filing their programs for the first time assemble in Room 4, Ballou Hall, at which time the students are assigned to certain officers who act as their advisers in the preparation of their programs. When the programs are prepared, they are filed with the Registrar.

9-11 A.M.—Members of the three upper classes file their programs in accordance with conferences which were held with their major instructors during the previous term.

II. FOR STUDENTS IN JACKSON COLLEGE FOR WOMEN

11 A.M.—12 M.—On the “opening day” of the term, all students obtain blanks and file programs at the Dean’s office. Members of the three upper classes register in accordance with programs prepared at conference with major instructors held previous to June first.

11.15. A.M.—All students registering for the first time assemble in Room 6, Miner Hall, for instruction concerning registration.

II. FOR STUDENTS IN THE ENGINEERING SCHOOL AND THE BROMFIELD-PEARSON SCHOOL:

11 A.M.—On the “opening day” of the term, those filing their programs for the first time assemble in Goddard Chapel, where information is given concerning courses of study and the preparation of programs.

When the programs are prepared they are filed with the Registrar.

10-12 A.M.—Members of the three upper classes file their programs in accordance with conferences held during the examination period of the previous term.

During the hours set apart for filing of programs, instructors are available for consultation and for the approval of plans of study, in rooms announced on the bulletin board.

Regular program appointments are in force on the second day of each term.

The College desires that its students should begin their work with promptness. Students who are late in registering or in filing their programs cause irregularities and confusion in the administrative office. Upper-class men who are not present on the “opening day” are subject to an extra charge of two dollars.

PROMOTION

Students are not promoted from the Freshmen class until they have completed all requirements for admission.

Candidates for the degree of Bachelor of Arts or Bachelor of Science (except in Engineering), before promotion to the Sophomore class, must have received a credit of not less than twenty-four term hours, and for promotion to the Junior class a credit of not less than fifty-four term hours. To become a member of the Senior class, a student must have credit for not less than eighty-seven term hours, and to graduate he must have had a credit of one hundred twenty-two term hours.

Candidates for the degree of Bachelor of Science in Engineering must have received, for promotion to the Sophomore class, a credit of not less than twenty-nine term hours; for promotion to the Junior class a credit of not less than sixty-four term hours; for promotion to the Senior class a credit of not less than ninety-nine term hours, and for graduation a credit of one hundred forty term hours.

GRADES OF SCHOLARSHIP

Scholastic standing is officially recorded as follows: **A**, excellent; **B**, good; **C**, fair; **L**, barely passable; **F**, not passable; **FF**, discreditable. **I** is used when a student for any cause fails to complete a subject.

The marks **I** and **F** impose a condition which must be removed at a date to be determined by the Committee on Promotions. In case marks of **I** or **F** are not so removed, the entry will be changed to **FF**. The responsibility for the removal of any condition rests with the student, who is required to make all necessary arrangements with the instructor and finally to present at the office of the Registrar a statement from the instructor that the work has been performed.

Reports of the work of Freshmen are sent to parents at the close of the first term. Reports for the year are issued in July.

TERMS AND VACATIONS

The year is divided into two terms. College exercises are suspended on certain dates in accordance with the calendar published at the beginning of the catalogue. An examination period of five days is held at the close of each term, during which the daily class exercises are suspended.

Students are not expected to extend their vacations by absenting themselves beyond the limit of the calendar. To prevent this extension they are required, except on holidays, to report in person at the Registrar's office within the two hours following the last class appointment preceding each vacation except at the mid-year intermission; and within two hours before their first class appointment following such vacation. This process is known as "signing off" and "signing on."

A fine of two dollars will be imposed on each student who shall fail to report as above provided. The regular registration at the beginning of each term shall be construed as "signing on."

ABSENCES

Students are required to notify the Registrar of absence from any cause involving more than three consecutive program appointments. This report should, if possible, be made in advance, and should state the cause of absence and the probable duration. After absence, notification should be given the Registrar before entering upon college work.

These reports are for the information of the college authorities, and do not excuse the student from chapel attendance, or from his obligations to the various instructors.

No student organization is allowed to make engagements involving absence from college exercises unless such engagements are first approved by the appropriate committee of the Faculty.

RELIGIOUS OBSERVANCES

Goddard Chapel, erected in 1882-83, is the gift of Mrs. Mary T. Goddard, as a memorial to her husband, Thomas A. Goddard. The week-day exercises are conducted by the College Chaplain, Dr. Edwin C. Bolles. Attendance is required.

The RUSSELL LECTURE, established in accordance with a bequest of James Russell of Arlington, is delivered by either a clergyman or a layman, on a subject prescribed by the testator.

Two subjects are presented, in alternate years.

The subject for 1915 was "*The Sufficiency of the Promises of the Gospel to meet the Reasonable Wants of Man both in Time and in Eternity.*"

The subject for 1916 is "*The Importance of Christian Faith and Belief in the Formation of the Character of the Good Citizen and the Good Man.*"

TUFTS COLLEGE STUDIES

A publication called "Tufts College Studies" has been established, as a means of presenting the results of original work done in the several departments of the College. The numbers, which are issued from time to time, are distributed as exchanges to educational institutions and learned societies. Correspondence regarding exchanges should be addressed to the Librarian of Tufts College.

ATHLETICS

The supervision and direction of all athletic sports is vested in a Board of Directors of Athletics, consisting of nine members, three of whom are appointed from the Faculty, three from the Alumni, and three elected from the Undergraduates. This board through its sub-committees controls the expenditure of moneys, the hiring of coaches, the eligibility of players, and the arranging of games. The Director of the Gymnasium, after physical examination, limits the candidates for college teams to those who have shown themselves qualified to engage in strenuous exercise.

EXPENSES

Realizing that the cost of collegiate instruction may prevent certain students from carrying their education beyond that provided by the public schools, and desiring that the facilities offered by Tufts College shall not be denied those of limited means, the Trustees have, for many years, refrained from making any increase in the charge for tuition.

The buildings, grounds and various endowments of the College have an aggregate value of over \$3,000,000 so that the amount actually paid to the College by any student is only a fraction of the cost of the instruction provided.

The expenses of the student are as follows:

Examination Fee

A fee of five dollars is charged for examining the student, in order to test the thoroughness of his preparation and to determine his fitness for collegiate work.

If the student is examined in June by the College Entrance Examination Board, the fee is sent by the student to the Secretary of the Board, Hamilton Hall, P.O. Sta. H, New York, N. Y.

If the student is examined in September by examiners at Tufts College, the fee is paid to the Bursar of the College before the examination is taken. If the student is examined in both June and September two fees are necessary.

If the student enters "on certificate" or on the "academic diploma" of the Regents of the State of New York, there is no examination fee.

Registration Fee

This charge of five dollars is made but once. It covers the cost of registering the student as a member of the College, and gives provisional enrollment until the courses of study have been arranged. It is a guarantee on the part of the student of his intention to assume the duties and privileges of student-membership in some one of the Associated Schools of the College.

Tuition Fee

The charge for each term or semester of instruction in the several Associated Schools is given in the following table.

School of Liberal Arts	\$62.50
Jackson College for Women	62.50
Engineering School	87.50
Bromfield-Pearson School	75.00
Crane Theological School	50.00
Graduate School	50.00
Pre-Medical Course	62.50

Before receiving the degree of A.B. or B.S. students must have paid tuition charges for eight terms of instruction. This regulation applies whether the time actually consumed is three, four or more college years.

In the case of students admitted to advanced standing the fees will be prorated.

Fees For Gymnasium And Student Organizations

By request of the student body, the Bursar has been instructed to collect assessments for the maintenance of student activities, such as field-sports, the college *Weekly*, reading room, etc. These are combined with the gymnasium fee and amount to \$10.00 for the first term and \$7.00 for the second term. Each student is put on the subscription list of the *Tufts Weekly* and receives a season ticket admitting him to the intercollegiate contests.

Room Rent

Students may or may not reside on the campus. It is customary for a dormitory room, or suite of rooms, to be occupied by two students. Each pays one-half rent, which, including heat and services, ranges from \$12.50 to \$40.00 per term. The rooms may be occupied from the Wednesday preceding the opening of the College year to the Saturday following Commencement. Except in Paige Hall, students provide their own furniture.

The students are custodians of the rooms and dormitories in which they reside. Injury to the rooms or buildings other than normal wear is charged to the occupants.

Non-resident students may obtain the use of "day rooms" upon the payment of a moderate fee. The rooms are assigned by the Bursar, under regulations approved by the Board of Trustees. All correspondence connected with the engagement and assignment of rooms should be addressed to the Bursar.

Room rent in the several dormitories may be tabulated as follows; the prices given are the rate per student per term.

Dormitories For Men

Double Rooms

	Curtis	Dean	East	Paige	West	Total
\$13.75	.	.	2	.	.	2
15.00	.	.	2	.	.	2
18.50	.	.	.	.	2	2
20.00	2	.	4	.	2	8
21.50	6	2	4	.	.	12
22.50	1	.	1	.	.	2
23.00	.	.	2	.	2	4
24.00	.	.	1	.	6	7
25.00	1	.	5	.	2	8
25.50	.	.	1	.	2	3
27.50	.	.	5	.	.	5
29.50	.	.	1	.	2	3
32.00	.	.	.	.	6	6
35.00	.	.	.	.	4	4
37.50	.	.	.	.	2	2
40.00	.	12	.	.	2	14
Total Double Rooms	10	14	28	0	32	84

Single Rooms

\$12.50	.	.	.	.	1	1
15.00	.	.	1	.	.	1
20.00	.	.	3	.	.	3
21.50	.	.	2	.	.	2
22.50	1	.	.	.	.	1
25.00	1	.	.	.	.	1
37.50	.	.	.	36	.	36
Total Single Rooms	2	0	6	36	1	45
Total	12	14	34	36	33	129

General Maintenance Fee

To defray a part of the cost of maintaining buildings and grounds, students are assessed five dollars per term. This fee is included in the rental charges of those residing at the College.

Laboratory and Other Fees

Students taking laboratory courses in Geology, Mineralogy, Chemistry or Biology are charged four dollars per term for material regularly consumed. The cost of breakage is collected at the close of the term. Before graduation, seniors are charged two dollars to cover the cost of the diploma.

THE TIMES AT WHICH COLLEGE PAYMENTS ARE MADE

All term bills must be paid in advance, and the College prefers to have the charges of the entire term paid at the time of registration, or before the date of the opening of the term. Realizing, however, that it is sometimes difficult for those who are working their way to comply with this regulation, it permits, for the present, the following schedule, to the terms of which it is obliged rigidly to adhere:

First Term

On or before October 1, \$50, On account.

“ “ November 1, Balance of term bill.

Second Term

On or before February 15, \$50, On account.

“ “ March 1, Balance of term bill.

All college charges are collected by the Bursar. Checks should be made payable to the Trustees of Tufts College. Promotions, degrees and letters of honorable dismissal cannot be granted to those in arrears.

A student may be suspended or dismissed for failure to keep his bills promptly paid, or for other good and sufficient cause.

No part of the fees and charges for a term is returnable to the student if he leaves during the term.

SCHOLARSHIPS

Tufts College has been singularly blessed in that many of its friends have given various sums, the interest on which is awarded to students who find it difficult to meet all of the financial exactions of college training.

Scholarships are awarded by the Trustees on the recommendation of the Faculty. The Faculty desires to become acquainted with the students before making its recommendation, and it therefore advises those who are coming to the College for the first time and who feel that they must have scholarship aid, to make early request to the Registrar for a scholarship application blank and to fill in this blank and mail it to the Chairman of the Scholarship Committee prior to the beginning of the term.

The student should, if possible, be prepared, himself, to meet the first payment of the term, — that is, the payment due October 1, or February 15. After the scholarship has been awarded, it will be credited to the second payment and reduce this amount accordingly.

In the year 1914-15 the Trustees distributed approximately \$12,000 to students in good standing. During the first term of the year 1915-16 scholarship awards were made as follows:

152	awards of	\$25.00	each
12	"	"	37.50 "
40	"	"	50.00 "
3	"	"	62.50 "

Scholarship aid will depend upon the student's need and the grade of his work. His obligations to the College must be met promptly, his attendance must be regular, and his influence on the student body must be in every sense wholesome. His loyalty to the College and his sense of common gratitude should dictate that as soon as possible after graduation he return to the College the several sums that he has received in order that others in need may be assisted in their efforts to obtain privileges similar to those that he has enjoyed.

The scholarships and the amount of the endowment are here listed.

THE STATE SCHOLARSHIPS. (3)

Established in 1859 in accordance with a resolve of the Commonwealth.

THE A. A. MINER SCHOLARSHIP.

\$1,000

Founded in 1864 by Alonzo Ames Miner, D.D., of Boston.

THE HOWLAND SCHOLARSHIPS.	(5)	\$10,366.87
Established in 1865 from the income of the bequest of Edwin Howland, of South Africa.		
THE WALKER MATHEMATICAL SCHOLARSHIPS.	(5)	
Established in 1865 in honor of William J. Walker, M.D., of Newport. R. I., and payable from the income of the Walker Fund.		
THE PERKINS SCHOLARSHIP.		\$1,000
Founded in 1866 by James D. Perkins, of New Rochelle, N. Y.		
THE MOSES DAY SCHOLARSHIPS.	(2)	\$4,000
Founded in 1880 by Moses Day, of Roxbury.		
THE MOSES DAY SCHOLARSHIP.		\$1,000
Founded in 1880 by Moses Day, of Roxbury.		
THE ANDERSON SCHOLARSHIP.		\$2,000
Founded in 1890 by John M. Anderson, of Salem, in the name of John M. and Rebecca Anderson.		
THE WILLIAM OSCAR CORNELL SCHOLARSHIP.		\$2,500
Founded in 1890 by William Oscar Cornell, of Providence, R. I.		
THE MARTHA GOLDTHWAITE MEMORIAL SCHOLARSHIP.		\$2,000
Founded in 1890 by Willard Goldthwaite, of Salem.		
THE A. A. MINER SCHOLARSHIP.		\$2,000
Founded in 1890 by Alonzo Ames Miner, D.D., of Boston.		
THE NORCROSS SCHOLARSHIP.		\$2,000
Founded in 1890 by James A. and Mrs. Mary E. Norcross, of Worcester.		
THE REBECCA T. ROBINSON SCHOLARSHIP.		\$2,000
Founded in 1890 by Charles Robinson, LL.D., of Newton.		
THE LAURA A. SCOTT SCHOLARSHIP.		\$2,000
Founded in 1890 by Mrs. Laura A. Scott, of Ridgefield, Conn.		
THE STOW SCHOLARSHIP.		\$2,000
Founded in 1890 by Mrs. Eugenia D. Stow, of Meriden, Conn.		
THE TALBOT SCHOLARSHIP.		\$2,000
Founded in 1890 by Newton Talbot, of Boston.		
THE TRAVELLI SCHOLARSHIP.		\$2,000
Founded in 1890 by Mrs. Emma R. Travelli, of Newton.		
THE AMASA AND HANNAH L. WHITING SCHOLARSHIP.		\$2,000
Founded in 1890 by Mrs. Hannah L. Whiting, of Hingham.		
THE WHITTIER SCHOLARSHIP.		\$2,000
Founded in 1890 by Charles Whittier, of Roxbury, in the name of Charles and Eliza Isabel Whittier.		

THE MARIA P. WINN SCHOLARSHIP.	\$2,000
Established in 1890 from a bequest of Mrs. Maria P. Winn, of Woburn.	
THE HOSEA BALLOU, 2D, MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by Mrs. Mary T. Goddard, of Newton.	
THE HENRY F. BARROWS SCHOLARSHIP.	\$2,000
Founded in 1891 by Henry F. Barrows, of North Attleboro.	
THE EDWIN H. CHAPIN MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by friends of Edwin Hubbell Chapin, D.D., of New York City.	
THE ANDREW J. CLARK MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by Mrs. Abbie B. Clark, of Orange.	
THE HENRY E. COBB SCHOLARSHIP.	\$2,000
Founded in 1891 by Henry E. Cobb, of Boston.	
THE COUSENS SCHOLARSHIP.	\$2,000
Founded in 1891 by John E. Cousens, of Brookline, in the name of John E. and Sarah C. Cousens.	
THE THOMAS A. GODDARD MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by Mrs. Mary T. Goddard, of Newton.	
THE J. H. MORLEY MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by Herbert Small Morley, of Templeton.	
THE ELLERY E. PECK MEMORIAL SCHOLARSHIP.	\$2,500
Founded in 1891 by Henry Rollins, of Bangor, Me.	
THE SARAH E. SAYLES MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by Albert W. Sayles, of Lowell.	
THE BENJAMIN F. SPINNEY SCHOLARSHIP.	\$2,000
Founded in 1891 by Benjamin F. Spinney, of Lynn.	
THE SIMONS MEMORIAL SCHOLARSHIP.	\$2,000
Founded in 1891 by Mrs. Mary A. Simons, of Manchester, N. H., in memory of Hiram H., Augustus, and Frank Simons.	
THE MARY ANN WARD SCHOLARSHIP.	\$2,000
Founded in 1892 by Sylvester L. Ward of Boston.	
THE SIMMONS SCHOLARSHIPS. (2)	\$4,000
Founded in 1895 by Robert F. Simmons, of Attleboro, in the name of Mary F. and Robert F. Simmons.	
THE JOHN B. PERKINS SCHOLARSHIP.	\$2,000
Founded in 1896 by Ann Maria Perkins, of Medford.	
THE JOSHUA S. AND HARRIET N. WHITE SCHOLARSHIP.	\$2,000
Founded in 1896 by Joshua S. White, of Pawtucket, R. I.	
THE BARNARD SCHOLARSHIPS. (3)	\$7,000
Founded in 1897 by Mrs. Caroline M. Barnard, of Everett.	

THE BARTLETT SCHOLARSHIP.	\$2,000
Founded in 1897 by Mrs. Nancy Bartlett, of Milford.	
THE B. H. DAVIS SCHOLARSHIP.	\$2,000
Founded in 1897 by the Rev. B. H. Davis, of Weymouth, for the benefit of students of the School of Liberal Arts who are preparing to enter the Christian ministry.	
THE LATIMER W. BALLOU SCHOLARSHIP.	\$2,000
Founded in 1898 by Latimer W. Ballou, of Woonsocket, R. I.	
THE JOSEPH D. PEIRCE MEMORIAL SCHOLARSHIP.	\$1,250
Founded in 1898 by the children and other relatives of J. D. Peirce, D.D., of Attleboro.	
THE JOSEPH H. WALKER SCHOLARSHIP.	\$1,000
Founded in 1898 by Joseph H. Walker, of Worcester.	
THE RHODE ISLAND SCHOLARSHIP.	\$2,100
Founded in 1899 by several persons in Rhode Island.	
THE GEORGE C. THOMAS SCHOLARSHIP.	\$1,000
Founded in 1899 by George C. Thomas, of Philadelphia, Pa.	
THE ALBERT W. SAYLES SCHOLARSHIP.	\$1,466
Founded in 1899 by Albert W. Sayles, of Lowell.	
THE NATHANIEL WHITE SCHOLARSHIP.	\$1,200
Founded in 1899 by Armenia S. White, of Concord, N. H.	
THE LIZZIE P. ALLEN SCHOLARSHIP.	\$2,000
Founded in 1900 by Lizzie P. Allen, of Derby Line, Vermont.	
THE LIZZIE P. ALLEN SCHOLARSHIP.	\$1,000
Founded in 1900 by Lizzie P. Allen, of Derby Line, Vermont.	
THE CHARLES AND FANNIE A. MINER BOOTH SCHOLARSHIPS. (2)	\$5,000
Founded in 1900 by Charles Booth, of Springfield, Vermont.	
THE LUTHER GILBERT SCHOLARSHIP.	\$2,000
Founded in 1902 by Mrs. Luther Gilbert, of Roxbury.	
THE JAMES M. AND EMILY COOK SCHOLARSHIP.	\$2,000
Founded in 1903 by Henrietta J. States, of Boston.	
THE WILLIAM H. SHERMAN SCHOLARSHIP.	\$2,000
Founded in 1903 by William H. Sherman, of Cambridge.	
THE DAVIS COOK SCHOLARSHIP.	\$2,000
Founded in 1904 by Davis Cook, of Cumberland, R. I.	
THE MARY A. RICHARDSON SCHOLARSHIP.	\$2,000
Founded in 1904 by Mrs. Mary A. Richardson, of Worcester.	
THE AUSTIN B. FLETCHER SCHOLARSHIP.	\$2,000
Founded in 1905 by Austin Barclay Fletcher, of New York City.	

THE WARREN SCHOLARSHIPS. (2)

Founded in 1905 by Dr. Ira Warren of Boston.

THE MARY L. GROCE SCHOLARSHIP.

\$2,000

Founded in 1906 by Mary L. Groce, of Roxbury.

THE JONAS CLARK WELLINGTON SCHOLARSHIP.

\$2,500

Founded in 1906 by Mrs. Sarah C. Fisher Wellington, of Cambridge.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE SCHOLARSHIP.

\$2,000

Founded in 1908 by John Sprague, of Lowell.

THE GEORGE STEVENS BALLARD SCHOLARSHIP.

\$2,000

Founded in 1910 by Caroline D. M. Ballard, of Augusta, Me.

THE RICHARD PERRY BUSH SCHOLARSHIP.

\$2,000

Founded in 1910 by Mrs. Caroline M. Barnard, of Everett.

THE HANNAH S. MOULTON SCHOLARSHIPS. (4)

\$10,150

Founded in 1914 by Hannah S. Moulton of Kensington, N. H.

THE BACON SCHOLARSHIP.

\$2,500

Founded in 1915 by Mrs. Cyrus V. Bacon, of Hingham

THE JAMES O. CURTIS SCHOLARSHIP.

\$1,000

Founded in 1915 by Betsy B. Curtis, of Medford

THE TRUSTEE SCHOLARSHIPS.

A limited number of special scholarships of one hundred dollars each are available for needy students in the School of Liberal Arts who reside in college dormitories.

LOAN FUNDS

The College is enabled, through the generosity of certain benefactors, particularly through the gift of Dr. Ira Warren, to make loans in small amounts. It is the preference of the College to limit the loaning of money to the members of the Senior class. Applications should be made to the Chairman of the Scholarship Committee.

ACADEMIC HONORS, PRIZE SCHOLARSHIPS, AND PRIZES

On the third Wednesday in November, the associated schools meet the several Faculties in Goddard Chapel in academic convocation. At this time public announcement is made of those who have been selected to represent the Senior class on the commencement platform, and the recipients of prize scholarships and prizes.

The following Prize Scholarship Funds have been established and scholarships from the income are awarded under special conditions:

THE GREENWOOD PRIZE SCHOLARSHIP IN ORATORY. \$1,000

Founded in 1877 by Mrs. Eliza M. Greenwood, of Malden, and given to such student as shall have made, as the result of faithful work, together with at least a fair degree of attainment, the greatest improvement in Oratory.

THE WENDELL PHILLIPS MEMORIAL SCHOLARSHIP. \$1,501

Founded in 1895 to perpetuate the name, fame, and influence of Wendell Phillips. This scholarship is to be awarded to a student who has completed the Freshman and Sophomore years, and he is to have the benefit of it during the remainder of his course. The beneficiary must be of sound body, high character, and ability in declamation and debate, and must comply with certain special conditions, including participation in a competitive debate of the applicants at the end of the Sophomore year. The specific conditions governing the award of this scholarship may be obtained by those intending to apply therefor from the Secretary of the Faculty, to whom application should be made early in the Sophomore year. The income of this scholarship is at present seventy dollars.

THE MOSES TRUE BROWN SCHOLARSHIP. \$1,000

A scholarship founded in 1903 by Moses True Brown, of Sandusky, Ohio, formerly Professor of Oratory in Tufts College, for encouraging and assisting worthy students in the department of Oratory.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1898.

The sum of fifty dollars is given annually by the Class of 1898 to that Senior who at the end of the Junior year shall have maintained the highest excellence in a course of study broadly and wisely chosen.

THE PRIZE SCHOLARSHIP OF THE CLASS OF 1882.

The sum of one hundred dollars is given annually by the class of 1882 to that member of the College who best exemplifies the combination of ability in athletics and excellence in scholarship.

The following prizes are awarded:

THE GODDARD PRIZES.

Three prizes of fifteen dollars each are assigned annually from the Goddard Prize Fund. In 1915-16 these prizes will be awarded in the departments of Biology, English and Philosophy, under the following conditions:

Biology.—The prize will be awarded to that student in either Biology 3 or 7 who, in the year's work, shows the clearest understanding of the fundamental facts and can best apply them to the solution of various questions.

English.—A prize for the best treatment of a theme by any student in the Department of English on a subject to be approved by the head of the department.

Philosophy.—The prize will be awarded to the student who submits the best essay on; An Experimental Study of "Transfer."

THE RHETORICAL PRIZES.

Three prizes are awarded as follows: A first prize of forty dollars, a second prize of thirty dollars, and a third prize of twenty dollars. The preliminary competition will be open to all candidates for the degree of A.B., B.S., and S.T.B. The rhetorical prizes are awarded by a committee, chosen by the Faculty, who judge the work presented by the competitors upon the public day appointed for that purpose. In order to enter the public competition, candidates, as well as their selections, must be approved by the Instructor in Oratory. A preliminary competition is held about ten days before the competition announced in the calendar, at which a committee of the Faculty determine the contestants in the final and public readings.

THE DE WITT C. TOMLINSON PRIZES.

Founded by Rev. Irving C. Tomlinson, of Brookline, Mass. Two prizes of thirty and twenty dollars respectively, for the two best essays on the subject of "The Ministry of Christ Jesus." The award of prizes must take into account (1) literary merit; (2) evidence of thorough study, clear insight, and unbiased understanding of the Biblical records of the ministry of Christ Jesus; (3) the treatment of the public and private ministration to those of his own time; (4) the treatment of the universal application of his ministry to all human needs, and (5) the treatment of the means by which the benefits of his ministry may be appropriated by his followers. These prizes are open to Seniors in The School of Liberal Arts, the Engineering School, the Theological School, and Jackson College, and to members of the Graduate School. Details as to conditions of competition may be obtained at the Registrar's office.

THE MENORAH SOCIETY PRIZE.

A prize of ten dollars is awarded for the best essay dealing with some phase of Hebraic life, culture, or ideals. The contest is open to the entire student body. The essay must be filed at the Registrar's office on or before May 15, 1916.

The foregoing prizes are not awarded, unless in the opinion of the respective judges there is sufficient merit in the several contests to warrant their distribution.

HONORS

FINAL HONORS IN THE SCHOOL OF LIBERAL ARTS AND JACKSON COLLEGE may be conferred at Commencement upon any member of the graduating class who shall have attained Grade A in approved subjects aggregating not less than eighteen term hours in a major department, and an average of Grade B in eighteen hours of allied subjects. Subjects marked with an asterisk (*) or with a double asterisk (**) will not be counted for Honors. Final Honors will be conferred only upon recommendation of the head of the department in which Honors are desired.

HONORABLE MENTION IN THE SCHOOL OF LIBERAL ARTS AND JACKSON COLLEGE will be made, at Commencement, of any student who has attained, during the two years immediately preceding graduation, Grade A in nine term hours and not less than Grade B in three additional term hours of approved work in one department. Subjects marked in the Catalogue with an asterisk (*) or with a double asterisk (**) are under the conditions explained above as applying to Final Honors.

Candidates for Honorable Mention are expected to report to the Office on or before May 1 the department or departments in which they look for such distinction.

FINAL HONORS IN THE ENGINEERING SCHOOL will be conferred at Commencement upon any member of the graduating class who shall have attained credits in his major department aggregating not less than eighteen term hours of Grade A and nine term hours of Grade B.

HONORABLE MENTION IN THE ENGINEERING SCHOOL will be made at Commencement of any student who has attained in any major department during the two years immediately preceding graduation, Grade A in nine term hours and not less than Grade B in six term hours.

The subjects open for Honors and Honorable Mention in the five major departments in the Engineering School are as follows; 45-1, 45-2, and 45-12 Applied Mechanics may be counted in any department; also in the Civil Engineering department, all subjects in Civil Engineering (41) except 41-3 Surveying; in the Structural Engineering department, all subjects in Applied Mechanics (45) and Structural Engineering (47); in the Mechanical Engineering department, all subjects in Mechanical Engineering (51) and 81-5 Engineering Economics; in the Electrical Engineering department, all subjects in Electrical Engineering (61) and 81-5 Engineering Economics; and in the Chemical Engineering department, all subjects in Chemistry (35) except 35-1 General Chemistry.

HOSPITAL

The College is the holder of a bed in the Somerville Hospital and its resident students in case of illness (except contagious diseases) are entitled to the benefits thereof without cost. Arrangements must be made through the college office.

INSURANCE

Arrangements may be made through the Bursar's office whereby students in any of the dormitories may insure their personal effects, including books, furniture, and wearing apparel. The cost of such insurance is fifty cents for \$100 per year.

COMMITTEE ON STUDENT EMPLOYMENT

It is the object of the committee on student employment to inform students concerning positions which may give regular occupation during available hours of term time, or which may be temporarily filled during the vacation periods. Students who wish to make application for any occupation should register their names, with a statement of their qualifications for any special work, with Professor HENRY C. METCALF, Chairman of the Employment Committee, Ballou Hall.

Buildings and Equipment

LIBRARIES

The library building, erected through the gift of Mr. Andrew Carnegie, is called the Eaton Memorial Library, in honor of the late Charles Henry Eaton, '74, former pastor of the Church of the Divine Paternity, New York City.

In all, about seventy-three thousand bound volumes and sixty-four thousand pamphlets are available for use. The College regularly receives more than two hundred periodicals. A reading-room, maintained by the students, supplies the daily and weekly papers. Separate rooms have been provided with facilities for the use of students working in the departments of History and Public Law, the Ancient Languages, the Modern Languages, Music, English, the Fine Arts, Philosophy, Political Science, Physics and Mathematics. The average annual increase by donation and purchase, for the last five years, has been about two thousand four hundred volumes.

In the general library is the collection of the Universalist Historical Society (six thousand volumes and several thousand pamphlets), to which, on application, students have access. In Packard Hall is a selected reference library, for the use of theological students. In the Barnum Museum is the department library of Natural History, numbering more than four thousand volumes and over ten thousand pamphlets. The Metcalf Musical Library is divided between the music rooms in Goddard Gymnasium, where the scores are kept, and the department room in the Eaton Memorial Library, which contains a collection of works relating to music. About four hundred representative musical compositions, in form for use upon the automatic instruments in the music rooms, are available to students.

The library building is open to all members of the College daily except Sundays and holidays, from 8.00 A.M. to 5.30 P.M.

BARNUM MUSEUM

The Barnum Museum of Natural History was built in 1883-84 by Phineas T. Barnum, who gave the College a fund for its maintenance and for additions.

The College is also indebted to Mr. Barnum for the larger portion of its zoological collection. This serves to illustrate all groups of the animal kingdom, and is especially rich in skeletons and mounted skins of mammals, the whole being well adapted for the purposes of instruction. The botanical collection consists of an herbarium containing a representation of the flora of New England, besides many specimens from Europe and the southern and western States. The geological collection has been selected with care and the mineralogical collection contains many fine examples.

The laboratories and lecture-rooms of the departments of Zoology, Botany and Geology are in the Museum building. The geological laboratory is provided with petrological microscopes, instruments for making rock sections, etc. The mineralogical laboratory possesses the apparatus necessary for the determination of minerals, the analysis of ores, and assay work. The biological laboratories for elementary work are furnished with all necessary facilities, while the laboratory for advanced and research work has all the appliances needed for investigation in anatomy, histology, and embryology.

GODDARD GYMNASIUM

Goddard Gymnasium, the gift of Mrs. Mary T. Goddard, is fitted with the apparatus usually seen in modern gymnasiums, including facilities for light and heavy gymnastics, fencing, wrestling, basket ball, base ball, and indoor athletic sports.

The third floor is occupied by the Department of Music.

ATHLETIC FIELD

Tufts College Athletic Field is the large inclosed field on College Avenue, where inter-collegiate contests are played. It includes two base-ball diamonds, a foot-ball field, and a quarter-mile, twenty-foot cinder track. Tennis-courts and a separate gymnasium are provided for women students.

CHEMICAL BUILDING

The building of the department of Chemistry contains laboratories for general inorganic, organic, analytical, and metallurgical chemistry, a large lecture-room, library, and weighing room, and the private laboratories of the professors in charge. The rooms are provided with modern laboratory conveniences, and are well supplied with apparatus and chemicals.

ROBINSON HALL

Robinson Hall, a memorial to Charles Robinson, is designed for the use of the Engineering School. It contains the laboratories for the Departments of Physics and Electricity and some of the laboratory equipment for the Departments of Civil and Mechanical Engineering. Beside these laboratories there are recitation rooms, a lecture hall and offices for the instructors. The drafting rooms for Civil and Structural Engineering are also in this building.

BROMFIELD-PEARSON BUILDING

The Bromfield-Pearson Building, built from funds given by Henry Bromfield Pearson, is largely used by the Department of Drawing and Mechanic Arts. It contains the office of the Dean of the Engineering School and the library and offices of the Department of Mechanical Engineering.

ENGINEERING LABORATORIES

The engineering laboratories are supplied with power and light from a Harrisburg Standard engine directly coupled to a direct current General Electric generator.

The Civil Engineering Laboratories contain the Cement and Highway testing apparatus including abrasion machines for paving material and the machines for testing cement and other highway materials. The surveying apparatus includes a very complete and varied equipment of transits, levels, plane tables, sextants, compasses, and the usual auxiliary apparatus.

The Hydraulic Laboratory is equipped with a 600 gallon Worthington duplex steam pump, a 300 gallon Lawrence centrif-

ugal pump, steam pulsometer, Pelton water wheel and a Gould hydraulic ram. A 4500 gallon channel serves for supply and discharge from the several pumps and contains the weirs and necessary apparatus for the measurement of water.

In the Electrical Laboratories will be found the usual equipment of measuring instruments, dynamos, etc. required for courses in general electrical testing. While the greater part of this is standard apparatus certain of the most useful pieces were specially designed and constructed in the college shops by students in the electrical engineering course. A recent addition to the laboratories is a complete common battery telephone exchange consisting of a three position switch-board with the customary power plant and terminal room equipment. This apparatus is designed particularly for instruction purposes, but is also arranged to be representative of standard installation practice.

The Mechanical Engineering Laboratory equipment includes a Corliss engine with Admiralty condenser, a 15 Kilowatt Curtiss steam turbine and a variety of smaller engines, stationary and marine, of the plain slide valve, piston valve and riding cutoff valve types. There are gas and gasoline engines of from one to four cylinders representing a variety of makes. An automobile and motorcycle testing plant is also included in the equipment. Absorption and brake dynamometers are used for the measurement of power and other machines are provided for oil testing, compressed air and fan tests. The laboratory equipment for experimental mechanics includes testing machines from 10,000 to 150,000 capacity.

SCHOOL OF LIBERAL ARTS

FRANK GEORGE WREN, A.M., Dean

Standing Committees

CURRICULUM: Dean Wren, *Chairman*; Professors Fay, Denison, Metcalf, and Durkee.

PROMOTIONS: Dean Wren, *Chairman*; Professors Durkee, Andrews, Denison, and Reed.

Faculty of the School of Liberal Arts

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

FRANK G. WREN, A.M., DEAN

Walker Professor of Mathematics

WILLIAM H. REED, A.M., SECRETARY

Assistant Professor of Modern Languages

Professors

Arranged in the order of their service at Tufts College

CHARLES E. FAY, A.M., LITT.D.

Wade Professor of Modern Languages

WILLIAM G. TOUSEY, A.M., S.T.D.

Logic and Ethics

FRANK W. DURKEE, A.M.

Chemistry

LEO R. LEWIS, A.M.

History and Theory of Music

FRED D. LAMBERT, PH.D.

Botany

WILLIAM K. DENISON, A.M.

Latin Language and Literature

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

EDWIN C. BOLLES, PH.D., D.D., LL.D.

Dickson Professor of English and American History

WILLIAM R. RANSOM, A.M.

Mathematics

ALFRED C. LANE, PH.D., SC.D.

Pearson Professor of Geology and Mineralogy

HENRY I. CUSHMAN, A.M., D.D.

Homiletics

HINCKLEY G. MITCHELL, D.D.

Hebrew and Old Testament Exegesis

ARTHUR I. ANDREWS, PH.D.

History and Public Law

KARL SCHMIDT, PH.D.

Philosophy and Education

LEE S. MCCOLLESTER, S.T.D.

Packard Professor of Christian Theology

HERBERT V. NEAL, PH.D.

Zoology

CLARENCE R. SKINNER, A.M.

Applied Christianity

CHARLES H. GRAY, PH.D.

English

Assistant Professors

Arranged in the order of their service at Tufts College

ALEXANDER DILLINGHAM, A.M.

Mathematics

ALBERT H. GILMER, A.M.

English

HENRY H. MARVIN, PH.D.

Physics

EUGENE H. BABBITT, A.B.

Modern Languages

Instructors

FREDERICK O. ASPINWALL, M.S.

Chemistry

CROSBY F. BAKER, M.S.

Chemistry

LOUIS R. BURNETT, M.D.

Physical Education

JOSEPH CHANDLER, PH.D.

Organic Chemistry

JOHN L. C. KEEGEN, A.M.

English

NATHANIEL H. KNIGHT, B.S.

Physics

FRANK W. POTE, B.S.

Physics

HARRIS RICE, S.B.

Walker Special Instructor in Mathematics

RALPH B. WILSON, A.M.

Political Science

WILLIAM F. WYATT, PH.D.

Greek

Courses of Instruction

In order that the student may pursue studies that are properly correlated and are at the same time adapted to his individual needs and attainments, he is first assigned to a member of the Faculty who acts during the Freshman year as his adviser. The adviser, having ascertained the qualifications and the ambitions of the student, explains to him the several courses of study. The student, prior to May 15, selects as his major department the one in which he plans to do the greater amount of his work. The major instructor of that department acts as the student's adviser during the remainder of his course. The Committee on Promotions has final authority over all plans of study. There are at the present time twelve major departments, each having major instructors as follows :

Department	Major Instructor
Biology	Professor Lambert or Neal
Chemistry	Professor Durkee
English	Professor Gray
French	Professor Fay
German	Professor Fay
Greek	Doctor Wyatt
History and Public Law	Professor Andrews
Latin	Professor Denison
Mathematics	Professor Wren
Philosophy and Education	Professor Schmidt
Physics	Professor Marvin
Political Science	Professor Metcalf

The courses offered are as follows:

- I. A general course, leading to the degree of Bachelor of Arts or Bachelor of Science.
- II. A course leading to the degree of Bachelor of Science in Chemistry.

I. GENERAL COURSE LEADING TO THE DEGREE OF BACHELOR OF ARTS OR BACHELOR OF SCIENCE

Required of All Students

	Hours *
English	6
Mathematics	6
Biology, Chemistry, or Physics	6
Physical Education	2
French, or German, of which at least six hours shall be above intermediate grade.	

Candidates for A.B. must also complete six hours in Greek or Latin.

Majors and Minors

Each candidate for a bachelor's degree must have completed a major in one of the following groups and a minor in each of the two other groups. The purpose of this requirement is that each student shall do a considerable amount of work in one group of studies and at the same time have a reasonable amount of training in the two other groups.

Group 1

English
French
German
Greek
Latin

Group 2

Biology
Chemistry
Mathematics
Physics

Group 3

History and Public Law
Philosophy and Education
Political Science

Geology or Mineralogy may be included as a part of the major or minor in an allied science.

A major consists of not less than eighteen hours' work in a single department, but certain subjects, particularly those that are introductory, do not have major value, and, therefore, cannot be counted in composing the eighteen-hour requirement. In the following description such subjects are marked with an asterisk (*) or double asterisk (**).

A minor consists of not less than twelve hours' work in a single department, and may include introductory subjects but a subject marked with a double asterisk (**) cannot be counted in composing the twelve-hour requirement.

* Each department offers a series of subjects for study. The unit indicating the requirements is the *hour*, which represents a subject pursued one hour a week for a term or one half-year. Thus a subject calling for three hours a week for one term represents a requirement of three hours; if it calls for three hours a week for one year, or two terms, the requirement in that subject is six hours.

The regular Freshman program is as follows:

For A.B.		For B.S.	
	Hours		Hours
English	6	English	6
Mathematics	6	Mathematics	6
Biology, Chemistry, or Physics	6	Biology, Chemistry, or Physics	6
Greek or Latin	6	French or German	6
Elective	6	Elective	6
Physical Education	1	Physical Education	1

The Elective of the Freshman year may be chosen from one of the following departments :

Biology	Greek
Chemistry	History
English	Latin
French	Physics
German	Political Science

Students who desire to begin preparation for a definite vocation may arrange continuous courses of study leading to the degree of A.B. and B.S. which will combine special fitness for a chosen field with the general training that every educated man should have.

Those preparing for definite vocations or professions should select major subjects as follows :

Vocation	Major Subjects
Business	Political Science
Consular and Foreign Service . . .	History and Public Law
Forestry	Biology
Journalism	English
Law	History and Public Law
Medicine	Biology

Those desiring to teach should select as a major the subject in which they intend to specialize and should confer with the Department of Education.

II. COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CHEMISTRY

The following subjects have been selected and arranged to prepare students for positions in metallurgical laboratories, as chemists with manufacturers or in analytical laboratories, or as assistant chemists for immediate service in the various departments of the United States government. This course may be followed also by those who wish to teach or to do graduate work in Chemistry.

FRESHMAN YEAR

FIRST TERM		SECOND TERM	
	Hours		Hours
English 1	3	English 2	3
Mathematics 14-21	2	Mathematics 14-21	2
Graphics 21-21	1	Graphics 21-21	1
Physics	3	Physics 1	3
German	3	German	3
Chemistry 1	3	Chemistry 1	3

SOPHOMORE YEAR

FIRST TERM		SECOND TERM	
	Hours		Hours
German	3	German	3
Chemistry 35-2	2	Chemistry 35-3	2
Chemistry 4	3	Chemistry 4	3
Physics 21	2	Physics 21	2
Physics Laboratory 24-7	1	Physics Laboratory 24-7	1
<i>Electives</i>		<i>Electives</i>	
Mathematics		Mathematics	
English		English	
Biology		Biology	

JUNIOR YEAR

FIRST TERM		SECOND TERM	
	Hours		Hours
Chemistry 5	3	Chemistry 5	3
Chemistry 9	1	Chemistry 7	2
Chemistry 35-10	4	Chemistry 35-10	4
Political Science 1	3	Political Science 1	3
Mineralogy 1	3		
<i>Electives</i>		<i>Electives</i>	
German		German	
English		English	
Mathematics		Mathematics	
History 1		History 1	
Biology		Biology	
		Crystallography	

SENIOR YEAR

FIRST TERM		SECOND TERM	
	Hours		Hours
Chemistry 11	3	Chemistry 11	3
Chemistry 17	3	Chemistry 17	3
Thesis	3	Thesis	3
Geology 5	3	Geology 23	1
		Geology 24	2
		Chemistry 8	2
<i>Electives</i>		<i>Electives</i>	
Biology		Biology	
Chemistry 12		Chemistry 12	
Political Science		Political Science	
Dynamo-Electric Machinery			

SYNOPSIS OF THE REQUIREMENTS FOR GRADUATION

(1) The requirement for the degree of Bachelor of Arts or Bachelor of Science is the satisfactory completion of subjects aggregating one hundred twenty-two term hours, including physical education.

(2) Students are required to attain for graduation a grade of at least C in seventy-two term hours.

(3) Upon the satisfactory completion of the aggregate hour requirement, the student is entitled to receive the Bachelor's degree, but no student will be granted a degree in less than four years of residence, unless he shall have obtained grade B as an average for his entire work.

Departments of Instruction in the School of Liberal Arts

In the following description of subjects, the department and name of the officer in charge are first given; then the several subjects, with the introductory subjects first. Each department has its fixed number and each subject its symbol. When subjects do not continue through the year, (F) means that they occur in the first term and (s) means that they occur in the second. Unless otherwise indicated, instruction in each subject is given three times each week and the credit is three term-hours per half-year. Subjects enclosed in brackets are not offered during the current year. An asterisk (*) indicates that the subject cannot be counted in comprising the eighteen-hour requirement for a major. A double asterisk (**) indicates that the subject cannot be counted in comprising either the eighteen-hour requirement for a major or the twelve-hour requirement for a minor. If fewer than four students apply for an announced subject the subject may be omitted.

12 ENGLISH

PROFESSOR GRAY

****12-1.** Freshman Composition. The essentials of composition, with practice in the forms of discourse, chiefly exposition and argumentation. Text-book, lectures, themes, conferences, and library reading. Required in all courses. (F)

PROFESSOR GRAY and Mr. KEEGEN; in Jackson College, PROFESSOR DAVIES

****12-2.** Freshman Composition continued. Further practice in the forms of discourse, chiefly narration and description, with special attention to journalistic methods. Text-book, lectures, collateral reading, analysis of newspapers, themes, and conferences. Required in all courses. (s)

ASSISTANT PROFESSOR GILMER and Mr. KEEGEN; in Jackson College, PROFESSOR DAVIES

12-4. Advanced Composition. Reflective and personal discourse, chiefly the essay; its history and varieties, the development of English prose style therein, modern essays of scholarly interest, and practice in both the study of ideas and the forming of ideas. Lectures, text-book, rhetorical analysis, themes, and conferences. (S) PROFESSOR GRAY

English 4 is open to those who have obtained at least grade C in English 1 and 2.

[12-7. The Forms of English Poetry. Elementary English versification, followed by the study of the chief forms of English poetry for both technique and content. Text-book, lectures, illustrative reading, and simple composition. (S) PROFESSOR GRAY]

12-10. The English Bible as Literature. A study (1) of its various literary forms—narrative, poetry, story, drama, address; (2) of its backgrounds in government, history, geography, and social customs; (3) of the influence of Biblical Literature on all forms of English Literature.

PROFESSOR MCCOLLESTER

12-11. General View of English Literature. Historical outline of the development of English Literature and reading of representative masterpieces. Text-book, lectures, book of selections, and reading reports.

PROFESSOR GRAY and ASSISTANT PROFESSOR GILMER

Students majoring in English are required to take 12-11 or 12-12, early in their course.

[12-12. American Literature. A general survey of American literature, aiming to make clear the characteristics of the most important literary periods, the writers, and their works. Text-book, lectures, reading, and essays. ASSISTANT PROFESSOR GILMER]

12-13. American Literature. A study of a group of representative authors: Hawthorne, Poe, Holmes, Lowell, and Thoreau. Reading, lectures, essays, and discussions. (S) MR. KEEGEN

Given in the second semester, 1915-16.

12-11 or 12-12 must precede or accompany English 13.

[12-16. Milton and his Time. Lectures, readings, and brief critical essays. PROFESSOR GRAY]

12-17. Shakespeare. A study of the life and times of Shakespeare, and of his development as a dramatist, illustrated by reading a series of selected plays. (F) ASSISTANT PROFESSOR GILMER

12-18. Shakespeare. Critical reading of a few plays not included in 12-17, with special attention to text and problems of research. Lectures, quizzes, investigation, and reports. (S) PROFESSOR GRAY

[12-19. The Age of Chaucer. Study of forms and pronunciation, reading of selections from Chaucer and his contemporaries, and lectures on the historical and social background of their works. PROFESSOR GRAY]

12-23. The Short Story. Narrative composition based mainly upon the study of the short story. Analysis of the principles of structure, practice writing, and criticism of original manuscripts in class. (F)

ASSISTANT PROFESSOR GILMER

12-24. Poetry of the Nineteenth Century. Wordsworth, Coleridge, Scott, Byron, Shelley, Keats, Rossetti, Tennyson, and the Brownings. Lectures, reading, library work, and reports. (F) PROFESSOR GRAY

12-25. Development of the Drama. A comprehensive study of the growth of the drama from its origin in Greece to plays of to-day. Many specimens of dramatic literature, Greek, Roman, English, and American, are read, summarized, and criticised in relation to dramatic principles.

ASSISTANT PROFESSOR GILMER

12-29. Seminar. Origin of the English Novel and its development to the nineteenth century. (F) The English Novel of the nineteenth century. (S)

PROFESSOR GRAY

[12-34. Tennyson and Browning. PROFESSOR GRAY]

12-36. Prose of the Nineteenth Century. Lamb, De Quincey, Newman, Landor, Ruskin, Carlyle. Lectures, reading, library work, and reports. (S)

PROFESSOR GRAY

18 ORATORY

ASSISTANT PROFESSOR GILMER

18-1. The Principles of Oratory. Enunciation and pronunciation; attitude and gesture; declamation; delivering of speeches, extempore and prepared; final original oration. (S) ASSISTANT PROFESSOR GILMER

[18-2. Argumentation and Debate. Text-book, papers, impromptu and prepared debate. Individual criticism. (F)

ASSISTANT PROFESSOR GILMER]

For 1915-1916 students desiring this subject may elect 11-13 English in the Engineering School.

22 GERMAN

PROFESSOR FAY

**22-1. Elementary German. The essentials of grammar, with composition. Reading of simple modern prose.

ASSISTANT PROFESSORS REED and BABBITT

German 1 is the equivalent of the entrance requirement in Elementary German.

***22-2.** Intermediate German. Reading of modern prose, lyrics and ballads; review of grammatical principles; practice in writing German.

ASSISTANT PROFESSORS REED and BABBITT

German 2 is open to entering students who have presented Elementary German for admission.

22-3. Course in advanced reading. Selected works from the literature of the eighteenth and nineteenth centuries.

PROFESSOR FAY and ASSISTANT PROFESSOR REED

German 3 is open to entering students who have presented Intermediate German for admission. Either half-year may be taken as a half-subject.

[22-3A. German Composition, written and oral. *One hour a week.*

ASSISTANT PROFESSOR REED]

German 3A is open to students who are at the same time taking German 3 or 4. It is not open to those who have taken or are taking German 3B.

22-3B. German Composition, written and oral.

ASSISTANT PROFESSOR REED

German 3B is open to students who have satisfactorily passed German 3 or its equivalent.

22-4. Schiller and Goethe. Maria Stuart, Wallenstein; Egmont, and selections from prose works of Goethe. Collateral reading. Dictation.

ASSISTANT PROFESSOR REED

German 4 is open to entering students who have presented Advanced German for admission. Juniors and Seniors whose major department is German may be permitted to take 4 and 5 in the same year.

22-5. Advanced reading in Lessing and Goethe. Nathan der Weise, Emilia Galotti, Laokoön, Goetz von Berlichingen, Tasso, Iphigenie, Faust, Parts I and II, with collateral reading.

PROFESSOR FAY

[22-6. History of German Literature, with illustrative works for leading epochs. Middle High German: Bachmann, Mittelhochdeutsches Lesebuch.

PROFESSOR FAY]

32 FRENCH

PROFESSOR FAY

****32-1.** Elementary French. The essentials of grammar, with composition, and the reading of short works of modern authors in prose and verse.

ASSISTANT PROFESSOR BABBITT

French 1 is the equivalent of the entrance requirement in Elementary French.

***32-2.** Intermediate French. Review of grammatical principles, especially with reference to syntax; exercise in composition; vocabulary practice; reading of modern fiction and drama, such as Mérimée's *Colomba* and Sandeau's *Mademoiselle de la Seiglière*. PROFESSOR LEWIS

French 2 is open to entering students who have presented Elementary French for admission.

32-3. Reading of modern authors (Taine or de Vigny, and novelists); introduction to seventeenth-century classics (Corneille, Racine, Molière, Boileau). Review of grammatical principles, with advanced vocabulary practice. PROFESSOR LEWIS and ASSISTANT PROFESSOR BABBITT

French 3 is open to entering students who have presented Intermediate French for admission. Either half-year may be taken as a half-subject.

32-3B. French Composition. Translation from the English (Fontaine's *Prose Composition*); later from the German, the work being based on Ploetz' *Nouvelle Grammaire Française* and *Uebungen zur Französischen Syntax*. PROFESSOR FAY

French 3B is open to students who have completed French 3, or its equivalent, and at least one course in German.

32-4. Literature and Manners of the Seventeenth Century. Crane's *Société Française au XVII e Siècle*; Molière, *Le Misanthrope*, *Les Précieuses Ridicules*, *Les Femmes Savantes*; Boileau, *Les Héros de Roman*; Schinz and King's *Seventeenth Century French Readings*, and selections from modern critics. PROFESSOR FAY

French 4 is open to entering students who have presented Advanced French for admission. Juniors and Seniors whose major department is French may be permitted to take 4 and 5 in the same year.

32-5. Literature of the Eighteenth and Nineteenth Centuries. The drama, poetry, the novel, the philosophical essay and criticism. Either half-year may be taken as a half-subject. PROFESSOR LEWIS

32-6. Historical Grammar. Old French readings: *Chanson de Roland*, *Villehardouin*, *Joinville*. History of French Literature. Detailed study of sixteenth century, with illustrative texts. PROFESSOR FAY

42 ITALIAN

PROFESSOR FAY

[42-1. Grandgent's *Grammar and Composition*; Maronini's *Italian Reader*; Maffei, *Merope*; Dante, *Divina Commedia* (Scartazzini's edition).

PROFESSOR FAY]

42-2 alternates with 92-1 Spanish. These subjects are open to candidates for A.B. who have done satisfactory work in French above intermediate grade.

92 SPANISH

ASSISTANT PROFESSOR REED

92-1. Elements of Spanish Grammar, practice in writing Spanish, reading of standard texts, including selections from the *Don Quijote* of Cervantes.

ASSISTANT PROFESSOR REED

52 LATIN

PROFESSOR DENISON

*52-1. Cicero, *De Officiis*, Book 1 or *De Amicitia*; Livy; Selections of Latin Verse from the earliest period to the late writers, including examples of Latin Hymns. The object aimed at in the second part of the course is to give to those who may not pursue Latin further a general conception of the best Latin verse, and to others a sound basis for more detailed study of certain Latin poets. Literary values will be considered, and some practical aspects of Latin study will be emphasized. PROFESSOR DENISON

Latin 1 is introductory to all later subjects.

52-2. Pliny, selected letters; Horace, Odes; Terence, one play; Apuleius, *Story of Cupid and Psyche*; Petronius, *Cena Trimalchionis*. This subject introduces the student to the early drama and also to the authors of the Silver Age; and in addition affords opportunity for the detailed study of the Odes of the Augustan poet, Horace.

PROFESSOR DENISON

Latin 2 is open to students who have completed Latin 1.

[52-3. Oxford Selection of Latin Verse, or selections from the *Satires* of Juvenal and *Epigrams* of Martial; Cicero; Tacitus; reading at sight.

PROFESSOR DENISON]

52-4. Horace, *Satires* and *Epistles*; Plautus, one or more plays; Cicero, selected letters; reading at sight.

PROFESSOR DENISON

Subjects 3 and 4 will be given in alternate years, and are designed for those who have completed Latin 2, or its equivalent. They may, by special arrangement with the instructor, be taken as half-subjects in either term.

52-5. Latin Composition. This course may accompany Latin 1 or be taken later in connection with other subjects offered by the department. *One hour a week.*

PROFESSOR DENISON

52-6. Latin Composition. Latin 6 is open only to students who have completed Latin 5. In it particular attention is paid to idiom and style. By reason of the variation of the work from year to year, the subject may be taken a second time with due credit. *One hour a week.* PROFESSOR DENISON

NOTE:—The attention of Greek and Latin students is called to related subjects listed under Classical History and Archæology.

62 GREEK

DR. WYATT

*62-1. Elementary. Goodwin's Grammar; Xenophon, Anabasis; Homer.

DR. WYATT

Greek 1 is intended for students entering without Greek and wishing to begin the study of that language. It is assumed that their previous training in linguistic studies will enable them to proceed rapidly and accomplish in one year all the work usually done in preparation for college. This subject may be taken (without credit) as a normal course by advanced students, on consultation with the instructor. *Double course, six hours a week.*

62-2. Xenophon, Memorabilia; Homer, Odyssey; Euripides, one play.

DR. WYATT

Greek 2 is for students who have passed Greek 1, or the entrance requirements in advanced Greek.

62-3. Herodotus, Books VII and VIII; Æschylus, The Persians; Sophocles, Antigone; Euripides, Alcestis.

DR. WYATT

[62-4. Lyric and Elegiac Poets, to Pindar. Aristophanes: Clouds, Birds, Acharnians, Frogs, with study of social life in Athens in the fifth century B. C.

DR. WYATT]

62-5. Theocritus, Idyls, with study of the Alexandrine age; Lucian; Homer, the Iliad, or the Odyssey, entire, with lectures on the results of the more recent investigations of the Homeric question.

DR. WYATT

Subjects 4 and 5 will be given in alternate years, and are designed for those who have completed Greek 3 or its equivalent. They may, by arrangement with the instructor, be taken as half-subjects in either term.

NOTE:—The authors and works enumerated under courses 2, 3 and 4 are not necessarily repeated each year, but are intended to give a general idea of the aim and scope of the courses.

[62-6. Greek Composition; practice in sight reading. *One hour a week.*

DR. WYATT]

Greek 6 may be taken by anyone who has had the equivalent of Greek 1.

62-7. Greek Composition; reading at sight. *One hour a week.*

DR. WYATT

Greek 7 is open only to students who have completed Greek 6.

NOTE:—No student can be recommended as a teacher of Greek who has not taken at least one subject in Greek composition.

28 CLASSICAL HISTORY AND ARCHÆOLOGY

PROFESSOR DENISON AND DR. WYATT

28-1. Greek and Roman Architecture. In this course a special effort will be made to trace the influence of Greek and Roman Architecture on the architecture of subsequent periods, particularly of our own time; and also to treat later styles sufficiently to make clear fundamental differences and inspire the student to further reading and study. (F) PROFESSOR DENISON

The instruction in this and the following courses will be by means of lectures, class reports and lantern slides.

28-2. Greek and Roman Sculpture. The twofold purpose of this course is, to inspire in the student a love for the beautiful, and to enable him to gain some understanding of the bases of present-day art and the principles of its interpretation. (S) DR. WYATT

[**28-3.** Roman Private Life. (F) PROFESSOR DENISON]

[**28-4.** Greek Private Life. (S) DR. WYATT]

In subjects 3 and 4 there will be systematic treatment of such topics as birth, education, marriage, death, the house, furniture, dress, meals, amusements, careers and occupations.

Classical Archæology 4 may be expected in 1916-1917.

[**28-5.** Roman Religion and Public Life. In this course special stress will be laid on the Roman Religion, but there will be systematic study of other topics such as the topography of Rome, political, legal and military institutions, measures and money, books, inscriptions, chronology and calendar. (F) PROFESSOR DENISON]

Classical Archæology 5 may be expected in 1916-1917.

[**28-6.** Greek Mythology and Religion. The underlying principles of Greek religion will be considered. The Myths will be treated in their relation to ancient and modern literature and art. Textbook (Fairbanks, Greek Mythology). (S) DR. WYATT]

28-7. Greek History; from the earliest times to the death of Alexander, with consideration of the sources. Textbook (Bury). (F) DR. WYATT

28-8. History of Rome; from the beginnings of the city to the Fall of the Western Empire, with study of the sources. (S) PROFESSOR DENISON

16 PHILOSOPHY

PROFESSOR SCHMIDT

16-1. Introduction to Philosophy. The course attempts to give the beginner in philosophy a perspective of what philosophy is about and what kind of help it may give him. (F) PROFESSOR SCHMIDT

[16-2. Introduction to Philosophy. A continuation of the preceding. (s)
PROFESSOR SCHMIDT]

16-3. Logic. An elementary exposition of logic, in the modern sense of the word, of critique of cognition, structure of systems, and scientific methods. (F)
PROFESSOR SCHMIDT

16-4. Logic. The "new" logic. An introduction to the calculus of classes and propositions; with applications. This course presupposes Philosophy 3. (s)
PROFESSOR SCHMIDT

16-55. Psychology. An elementary lecture course. Normal human psychology will form the main subject of the course; but abnormal and supernormal phenomena will be studied in so far as they shed light on normal psychology. Lectures, illustrative experiments, conferences.
PROFESSOR SCHMIDT

[16-8. Ethics. A critical survey of the evolution of ethical ideals, followed by a constructive theory. But the main emphasis of the course will be laid on the application of the theory to the problems of the modern world of action.
PROFESSOR SCHMIDT]

16-15. The Philosophy of Theism. The final problem; limits of the intelligence; final cause in nature; evidences of a moral order; theistic and anti-theistic argumentation; intuitivism.
PROFESSOR TOUSEY

[16-16. Experimental Psychology. An elementary laboratory course; open only to those who either have finished or are taking the course in general psychology (55). Nine hours of laboratory work counting for three term hours. (s)
PROFESSOR SCHMIDT]

Will be given in 1916-17.

26 EDUCATION

PROFESSOR SCHMIDT

16-55. Psychology. This course is listed in the Department of Philosophy. It is recommended that students who expect to teach take this course during the Sophomore year, as it is required for all courses in Education except 26-1.

[26-1. Principles of Education. Brief introductory study of the Educational Reformers. (F)
PROFESSOR SCHMIDT]

Will be given in 1916-17.

[26-2. Child Study. Child psychology; The relation of the school to child welfare including a discussion of such problems as school hygiene, backward children, juvenile delinquents and public play grounds; Principles of moral and religious education. (s)
PROFESSOR SCHMIDT]

26-4. Educational Psychology. A study of the application of psychology to the problems of education. (s) PROFESSOR SCHMIDT

This course may be taken during the second term of the year in which the course in General Psychology 16-55, is taken.

26-5. Principles of Secondary Education. (F) PROFESSOR SCHMIDT

This course presupposes 26-1 and 26-4; it is meant primarily for those who expect to make secondary-school teaching their profession.

[26-6. Principles of Secondary Education (continued). (s)

PROFESSOR SCHMIDT]

26-7. Practice Teaching. Teaching under supervision in the high schools of Arlington, Medford, Somerville and Winchester. Only students who have passed 26-5 will be permitted to take this course. No student will be recommended by the Department of Education for a teaching position, unless he has shown teaching ability in the course in practice teaching. (s)

PROFESSOR SCHMIDT

36 HISTORY

PROFESSOR ANDREWS

***36-1.** European History to the French Revolution. History 1 is an introductory course, designed to give a comprehensive view of the various political, religious, industrial, and social factors that have contributed to the Europe of today, and thus to pave the way for a more detailed study of limited periods. Emphasis is distinctly on the modern period. Text-books, lectures, assigned reading and thesis. PROFESSOR ANDREWS

Students desiring to take as many subjects as possible in the department should elect History 1 and 2 early in their course. In History 6, 7, 9 and 15 a reading knowledge of French is useful.

36-2. General History of England. Text-book, lectures, analyses, and themes. PROFESSOR BOLLES

36-3. General History of America. Text-book, lectures, analyses, and themes. PROFESSOR BOLLES

[36-6. The French Revolution, the Napoleonic Period and the history of Europe to 1850. Text-book, discussions, assigned reading and thesis. (F)

PROFESSOR ANDREWS]

[36-7. Modern Europe, 1850-1914. One of the chief purposes of History 7 is to furnish some explanation of present-day questions in European politics. Discussions, assigned reading and thesis. (s) PROFESSOR ANDREWS]

36-6 and 36-7 may be expected in 1916-1917.

36-9. The History of Eastern Europe from the earliest times to the present day. This subject includes the history, religions, institutions, and political and economic conditions of the countries and peoples of the


Nearer East, including, especially, Russia, Poland and other Slavic nations, the Byzantine and Greek Empires, the Balkan States and the Ottoman Empire, with some attention to Asia Minor, Egypt and Northern Africa. Lectures, discussions, assigned reading and thesis. PROFESSOR ANDREWS

The second half-year may be taken separately by special permission of the Instructor.

36-15. Seminar in History and Public Law. Investigation of selected topics from the sources. During the year 1915-16 the subject of study will be taken from the recent history of Europe. History 15 is open only to such students as receive the special permission of the instructor. *Hours and credit to be arranged with the instructor.* PROFESSOR ANDREWS

46 PUBLIC LAW AND ADMINISTRATION

PROFESSOR ANDREWS

 History 1 should precede or accompany any subject in Public Law but students may be admitted to classes by special permission of the department. Students desiring to take all the subjects in this group should elect History 1 in their first year, and Public Law 1, or its alternate, in their second year.

46-1. Political Institutions of the United States — Federal, State, and Municipal. The framework of American Government is studied but emphasis is placed upon its actual working as modified by usage and existing conditions. Political parties, their place and development will be given due emphasis. Attempts will be made to study at close range the machinery of state and local legislative bodies. Each student will be given an opportunity to report on the governmental conditions in the locality with which he is most familiar. Text-book, lectures, discussions and thesis. (F) PROFESSOR ANDREWS

46-3. Modern English Government. Detailed study of the actual working of the English Government. Attention will be given to the procedure of Parliament and its relation to the executive, to the administrative structure, the organization and influence of political parties, and colonial relations. Comparisons with American and Continental political conditions will be attempted. Text-book, lectures, assigned reading, and thesis. (S)

PROFESSOR ANDREWS

[46-4. European Government and Politics. A study of the constitutions of the chief European states, together with the consideration of the most important questions of European politics. A reading knowledge of French is desirable. Text-book, lectures, assigned reading, and thesis. (F)

PROFESSOR ANDREWS]

[46-8. Colonial Governments: The governments of colonies and dependencies throughout the world. Attention will be given to the history of modern colonization, to past and present experiments in administration,

and to the international aspects of the colonial development of modern nations. Lectures, assigned reading and thesis. (S)

PROFESSOR ANDREWS]

46-10. International Law and Modern Diplomacy. The history of international law and consideration of its leading principles and practice. Cases in modern diplomatic procedure will be used. Textbook, lectures, discussions, assigned reading and thesis.

PROFESSOR ANDREWS

66 POLITICAL SCIENCE

PROFESSOR METCALF

***66-1.** Elements of Economics. (a) First semester: a consideration of the fundamental concepts of economics. The factors of production, exchange, distribution and consumption; the services of land, labor, capital and managerial ability; the laws of wages, rent, interest and profits. (b) Second semester: a study of present day economic problems. The corporation, trusts, railways, monopolies, tariff and free trade. The rise of the modern labor problem; types of labor unions, of employers' associations, of industrial peace agencies; woman labor and the minimum wage; child labor, industrial education, and vocational guidance; mis- under- and unemployment; industrial accidents, occupational diseases, poverty, and workingmen's insurance; profit-sharing, coöperation, and welfare schemes. The effects of immigration on our economic, social, and civic life; the beginnings, teachings, and progress of modern socialism, its relation to trade unionism, syndicalism, and anarchism. The relation of the State to industry. The aim of this course is to present economic and social movements and their underlying causes in such a way as to give to the non-specialist, whatever his future work may be, an intelligent understanding of current industrial problems and tendencies. Lectures, quizzes, text, assigned readings.

PROFESSOR METCALF and MR. WILSON

Economics 1, or its equivalent, is introductory to all the other subjects offered by the department.

[66-2. Modern Industrial History of Europe. A survey of existing industrial society in terms of development. The local industry of feudalism, the manorial and guild systems, the rise of nationalism, custom and competition, the effects of the Industrial Revolution on the development of technique, the separation of industrial functions, concentration of wealth, the growth of industrial institutions, and the theory of industrial change; the effects of the machine process upon social life and institutions. Lectures, text, and assigned readings. (F)

MR. WILSON]

[66-22. Economic History of the United States. Brief consideration of economic conditions in the colonies; the growth of western settlement; economic relations growing out of slavery and the Civil War; study of the growth of agriculture, mining, manufacture, transportation, and the resultant types of domestic and foreign commerce; brief survey of national legislation on currency, finance, taxation, including the tariff, together with its relation to industry and commerce. Lectures, text and assigned readings. (S) MR. WILSON]

66-3. Elements of Sociology. A general course in the foundations of sociology, including a survey of social origins, social evolution, and some account of the prevailing types of social activities of present day society. Methods of social control—law, belief, public opinion, social suggestion. Social organization, social ideals, and theories of social progress. Lectures, readings, discussion. (F) PROFESSOR METCALF

66-13. Social problems. A study of current problems in sociology: population, the family, child welfare, the woman movement; the assimilation of the foreign elements in American population; rural isolation and city congestion; problems of poverty, delinquency and dependency. Movements for social betterment such as improved standards of living, housing, and civic recreation. Lectures, readings, discussion. (S) PROFESSOR METCALF

66-4. Principles of Public Finance. Public expenditures; classification of public revenues; recent reforms in taxation; the development and significance of public debts; financial administration; recent European and American works on finance. Lectures discussions, text. (F) MR. WILSON

66-5. Fiscal History of the United States: an historical course, with special reference to the financial experience of the United States. Leading topics are Hamilton's financial system; protection and revenue tariffs; the bank question; the fiscal policy of the Civil War; resumption of specie payments; the national banking system; state and local taxation; silver legislation and the panic of 1893; government loans; resumé of recent financial legislation. Lectures, discussions, text. (S) MR. WILSON

66-6. Modern Industrial Combinations. The economics of corporations with special reference to the so-called trust problem. Among the topics treated are trust promotion, capitalization, trusts and industrial efficiency, influence of combinations upon prices, profits, wages, rights of investors, international trade, industrial stability, and business honor; the practical results attained through publicity, taxation, recent court decisions, and State regulation. Lectures, recitations, reports, text. (F) MR. WILSON

66-16. Modern Labor Problems. This subject deals mainly with the social and economic problems arising from the relations of employers and their laborers. The chief topics will be the growth, methods, and aims of modern associations of wage earners; methods of conciliation and arbitration; strike and factory legislation; employers' liability and recent compensation acts; compulsory publicity; provident institutions and friendly societies; the relation between trade unions and scientific management. Each member of the class will be expected to make a report upon a labor union. Lectures and recitations, text. (S) MR. WILSON

66-17. Business Organization and Administration. This course treats of the various types of business organization, management, and administration; plant equipment; problems of internal organization; modern business practice in selecting, placing, and training employees; methods of remuneration and promotion; just relations between employer and employee. A critique of the various efficiency systems, with special reference to the principles and practice of scientific management, their scope, application, economic and social results. The ideal business administrator. The place of vocational guidance in the field of business and industry. Students desiring to prepare for executive and administrative positions will find this course of particular assistance. Lectures, discussions, and reports.

PROFESSOR METCALF

Either half-year may be taken as a half-subject.

66-18. Transportation Problems. The economic, financial, and social problems arising from modern systems of transportation, with special reference to railway transportation, in the United States. The chief topics are: brief historic survey of water and railway transportation; railway charters, powers of directors and stockholders, the nature of railway securities; railway traffic; fares, rate making, rebates, pooling and railway consolidations; the American systems of State railway commissions, the Interstate Commerce Commission, the recent extensions of Federal control; the effects of transportation systems upon industrial competition. A part of the time will be devoted to some of the more recent problems of electric railway development. A special report will be required from each student of the subject. Lectures and recitations. MR. WILSON

Either half-year may be taken as a half-subject.

66-7. The History of Economics: an account of the beginnings, the progress, and the various schools of economic science; study of the writings of Adam Smith, Ricardo, Mill, and others. Political Science 7 is open to advanced students who are specializing in the department. A reading knowledge of French and German is desirable. (S) PROFESSOR METCALF

This course is open to graduate students only.

66-9. Seminar in Economics and Sociology, designed for advanced students who are specializing in the department. Questions in economics, statistics, or sociology may be selected. *Hours and credit to be arranged.*

PROFESSOR METCALF

14 MATHEMATICS

PROFESSOR WREN

14-1. Introductory course. Rounded numbers, trigonometric functions, 4-place logarithms, right triangles. Graphical representation of functions, typical variables. Rectangular coördinates, straight lines, standard curves. Elementary derivatives, rate problems, extreme values. Simple integrals, Areas. This subject and 21-21 Graphics described below are prescribed for all students and satisfy the requirement of Mathematics for the Bachelor's degree, in the School of Liberal Arts and Jackson College. *Two two-hour periods. Counting as four term-hours.*

PROFESSORS RANSOM and WREN, ASSISTANT PROFESSOR DILLINGHAM
and MR. RICE

21-21 **Graphics.** Introductory Course. A general consideration of the principles and usages of the graphic language, including practice in the reading of a variety of drawings, and such training in the art of graphic expression as may be possible without the usual equipment necessary to instrumental work. *One two-hour period a week. Counting as two term-hours.*

PROFESSOR ANTHONY, ASSISTANT PROFESSORS ASHLEY and CARROLL

14-4. Analytic Geometry. Coördinate systems. Properties of conic sections and higher plane curves. Introduction to three dimensional geometry. (F)

PROFESSOR RANSOM

14-5. The differential Calculus. Formal differentiation and applications to rate problems, extremes, and curve tracing. Expansion in Series. Partial and successive differentiation. (S)

PROFESSOR WREN

14-6. The Integral Calculus. Formal integration and applications to geometry and mechanics. Introduction to differential equations. (F)

ASSISTANT PROFESSOR DILLINGHAM

14-7. Advanced Calculus. A more critical examination of fundamental methods and their extension to complex quantities. Partial differentiation, line and surface integrals, and the more notable definite integrals. (S)

PROFESSOR RANSOM

14-8. Modern Geometry. An advanced course in Plane Analytic Geometry involving analysis by means of homogeneous coördinates interpreting imaginary and infinite elements, and introducing the elementary geometric transformations. (S)

ASSISTANT PROFESSOR DILLINGHAM

14-9. Theory of Equations and Determinants. Transformation of equations; cubic and quartic equations; applications of substitution groups; classification of linear simultaneous equations; properties of determinants. (F)

ASSISTANT PROFESSOR DILLINGHAM

14-10. Differential Equations. A problem course in the elementary theory of ordinary and partial differential equations with applications to geometry and mechanics. (S)

PROFESSOR WREN

14-12. Vector Analysis. Sums and products; differential operators; applications to geometry, electricity, and dynamics. (F)

PROFESSOR RANSOM

Mathematics 12 is open to students who have completed Mathematics 14-21, 4, 5, and 6.

14-14. Theoretical Mechanics. A problem course dealing mainly with dynamics of a particle, and dynamics of a rigid body. Lectures and recitations. (F) Mathematics 6 and 10 must precede.

ASSISTANT PROFESSOR MARVIN

14-22. Algebra, geometry, and trigonometry. Parts of these subjects will be considered with especial reference to the problem of teaching them. (F or S)

PROFESSOR RANSOM

Not open to Freshmen.

24 PHYSICS

ASSISTANT PROFESSOR MARVIN

***24-1.** General Physics. A course of lectures, recitations and laboratory work intended to acquaint the student with the fundamental principles of Physics. It is to be elected by students who choose Physics as their prescribed science. *Three lectures or recitations and one two-hour laboratory period per week. Counting as six term hours.*

ASSISTANT PROFESSOR MARVIN, MR. KNIGHT

Must be preceded or accompanied by Mathematics 14-21.

24-21. General Physics. Problem Course. This course is a continuation of, and must be preceded by Physics 1. *Two recitations per week. Counting as four term hours.*

ASSISTANT PROFESSOR MARVIN

24-7. Physics Laboratory. A laboratory course in General Physics intended to follow Physics 1. *One three-hour period per week. Counting as two term hours.*

MR. POTE

24-2. Electricity and Magnetism. Mathematical Theory. Lectures and recitations. Mathematics 5 must precede. (F)

ASSISTANT PROFESSOR MARVIN

24-6. Wave Motion and Light. A brief treatment of geometrical Optics is followed by a discussion of reflection, refraction, diffraction, interference, polarization, double refraction, emission and absorption from the standpoint of the wave theory. Lectures and recitations. (s) Mathematics 5 must precede. ASSISTANT PROFESSOR MARVIN

[24-9. Theory of Heat. A discussion of the classical experiments of Regnault, Joule and others, is followed by an introduction to the Kinetic Theory and Thermodynamics, and a discussion of recent developments in the field of Radiation. Lectures and recitations. Given in 1916-17. (s) Mathematics 5 must precede. MR. POTE]

24-11. Conduction of Electricity through Gases, and Radioactivity. Lectures and recitations, with collateral reading. Reports on original papers appearing in the literature of the subject are required from time to time. (F) Mathematics 5 must precede. MR. POTE

24-17. Advanced Physics Laboratory. A course intended to accompany Physics 2, 6, 9 or 11. Open to Juniors and Seniors whose major department is Physics, and to other Juniors and Seniors whose qualifications are satisfactory to the head of the department. The course may be pursued for one, two, three or four terms, subject to the approval of the head of the department. *One three hour period per week. Counting as one to four term hours, according to the number of terms in which it is pursued.*

ASSISTANT PROFESSOR MARVIN and MR. POTE

Mathematics 14 may be counted towards a major in Physics.

34 CHEMISTRY

PROFESSOR DURKEE

*34-1. General Chemistry. An introductory course in theoretical and descriptive inorganic chemistry, with a thorough consideration of the simplest carbon compounds and principal technical processes. Lectures, recitations, and laboratory work. *Two lectures, and one three-hour laboratory period. Counting as six term hours.*

PROFESSOR DURKEE, MR. BAKER, DR. CHANDLER, and ASSISTANTS

35-2. Qualitative Analysis for the detection of the metals, a course which includes the experimental development of schemes for the division of the metals into groups, the separation and detection of the metals in each group,—a study of all the chemical changes and analytical details, together with the correct analysis of six known solutions and thirteen unknown. Lectures, laboratory work and recitations. *Two three-hour periods. (F) Counting as two term hours.*

PROFESSOR DURKEE, MR. BAKER, and ASSISTANTS

35-3. Qualitative Analysis. Advanced, dealing with methods to effect solution of solids, the detection of mineral and common organic acids, the complete analysis of inorganic solids, including mixtures of salts, minerals, alloys, and slags. Three known and thirteen unknown are required, and thorough study of the chemical changes and conditions involved in the analyses. Lectures, laboratory work, and recitations. *Two three-hour periods.* (s) *Counting as two term hours.* MR. BAKER and ASSISTANT

34-22. Qualitative Analysis. A more extended treatment than that given in 35-2 and 35-3. Preparation 34-1. Open to all who are not engineering, or B.S. in chemistry students. Lectures, recitations, and laboratory work. *Three three-hour periods. Counting as six term hours.*

PROFESSOR DURKEE and MR. BAKER

34-4. Quantitative Analysis. Theory and practice of gravimetric and volumetric analysis, including the determination of chlorine by the ordinary and Gooch crucible methods, iron and sulphur in ferrous ammonium sulphate, silica in a silicate, phosphorus in a phosphate, complete analysis of dolomite, and brass, preparation of strictly half-normal sodium hydroxide and hydrochloric acid solutions, the volumetric analyses of soda ash and oxalic acid, the analysis of iron ore by the dichromate and permanganate methods, determination of chromium in chromite, of antimony by the iodine method, and silver by the sulphocyanate method. Lectures and laboratory work. *Three three-hour periods. Counting as six term hours.*

PROFESSOR DURKEE and MR. BAKER

34-5. Quantitative Analysis. Technical. Work varied somewhat to meet the needs of individual students. Course ordinarily comprises proximate analysis of coal, nitrogen in coal, by Kjeldahl's method, complete analysis of boiler scale, mineral and sanitary analysis of water, determination of copper in ores by iodine and cyanide methods, of zinc by ferro-cyanide method, complete analysis of Babbitt metal, determination of lead in ores, and manganese, sulphur, phosphorus, silicon and carbon in iron and steel. Organic analysis. Laboratory work. *Three three-hour periods. Counting as six term hours.*

PROFESSOR DURKEE

34-7. Fire Assay. A course which deals with the theory and practice of sampling and assaying gold and silver ores. Open to students who have taken 1, 2, 3, and 4. *Two three-hour periods.* (s) *Counting as two term hours.*

PROFESSOR DURKEE and ASSISTANT

34-8. Metallurgy of Iron and Steel, considered largely from the chemical side and includes the study of ores, fluxes, fuels, furnaces, and the other mechanical devices used in the commercial production of pig iron, wrought iron, and steel, together with the solution theory of iron and steel, heat treatment of steel, and production of malleable cast iron. Metallurgy of

Gold and Silver is an alternative. Lectures, recitations, and laboratory work. Chemistry 8 is open to students who have taken Chemistry 1. *Two lectures a week. (S) Counting as two term hours.* MR. BAKER

34-9. Gas Analysis, by the Orsat, Elliot, and Hempel systems. Lectures and laboratory work. Chemistry 9 is open to students who have taken Chemistry 1, 2, 3, and 4. *One three-hour period. (F) Counting as one term hour.* PROFESSOR DURKEE and MR. ASPINWALL

35-10. Organic Chemistry. This course consists of lectures, recitations, and laboratory work. It is intended to familiarize the student with the typical compounds of carbon and their more important derivatives. The work in the laboratory includes the preparation of certain of the more important substances referred to in the lectures, and the identification of certain classes of compounds. Lectures, recitations, and laboratory work. Chemistry 10 is open to students who have taken Chemistry 1. *Three lectures and one three-hour laboratory period. Counting as eight term hours.*

DR. CHANDLER and ASSISTANT

34-11. Physical Chemistry. The subject matter of this course consists largely of the principles usually included under the head of Physical Chemistry. The work in the laboratory consists of physical chemical measurements and experiments of a physical chemical nature. Lectures, recitations, and laboratory work. Chemistry 11 is open to students who have taken Chemistry 1, 2, and 4. *Two lectures and one three-hour laboratory period. Counting as six term hours.*

DR. CHANDLER

34-12. Discussion of Chemical Subjects and Recent Investigations. *One hour a week. (F)*

PROFESSOR DURKEE and DR. CHANDLER

34-17. Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. Lectures, visits to plants, text-book work, and recitations. *Two lectures or recitations and one three-hour laboratory period. Counting as six term hours.*

PROFESSOR DURKEE

34-16. Thesis. Investigation of a problem in Inorganic, Organic, or Technical Chemistry. Open to students of A.B. and Science Courses who have satisfactorily completed Chemistry 1, 2, 3, 4, 5, and 10. *Nine laboratory hours a week. Counting as six term hours.*

PROFESSOR DURKEE and DR. CHANDLER

34-19. Chemistry. This course is primarily intended to enable the students to acquire facility in reading chemical German. The work consists of recitations and special reports on assigned subjects. These assignments

are chiefly to articles in the German chemical journals. Open to Juniors and Seniors, candidates for A.B. or B.S., taking chemistry as a major subject, who have had not less than two years of college German or its equivalent. (F)

DR. CHANDLER

44 BIOLOGY

PROFESSOR NEAL AND PROFESSOR LAMBERT

***44-1.** General Biology. A course in the principles of animal and plant biology, presenting the fundamental facts of vital structure and function with special emphasis upon the vertebrates and flowering plants. Some conception of the evolution of plants and animals is given by the laboratory study of a series of types beginning with the unicellular. The student is advised to take field work in ornithology (Biology 13) in conjunction with Biology 1. *Two recitations and three hours of laboratory work. Counting as six term hours.*

PROFESSORS NEAL and LAMBERT

44-3. Vertebrate Morphology. A course in the phylogeny of man and mammals. The laboratory work consists largely of the dissection of the dogfish and cat. Each organ system is studied with reference to its development, anatomy and physiology. Open to all students who have completed Biology 1. *Two lectures or recitations and four hours of laboratory work. Counting as six term hours.*

PROFESSOR NEAL

44-4m. Human and Comparative Physiology. Lectures, recitations, conferences, and laboratory work. Given at the Medical School. *Hours and credit to be arranged.* (S)

DR. R. E. ANDREWS

44-5m. Histology, Medical. Lectures, quizzes, and laboratory work given at the Medical School. *Hours and credit to be arranged.* (F)

PROFESSOR BATES

44-7. Botany. Lectures and laboratory work. An advanced course in plant morphology and physiology, open to students who have taken Biology 1. *Two lectures and four hours of laboratory work. Counting as six term hours.*

PROFESSOR LAMBERT

44-8. Special Work. The investigation of some problem. Open to those who have taken three courses in biology. *Hours and credits to be arranged.*

PROFESSORS NEAL and LAMBERT

44-9m. Human Anatomy. Lectures, quizzes, and dissection. Given at the Medical School. *Hours and credit to be arranged.* (F)

DR. W. E. SULLIVAN

44-11. Microscopical Technique. A laboratory course designed to introduce the student to the methods used in the preparation of plant and animal tissues for the microscope. Open to students who have completed Biology 3 or 7. *Six hours of laboratory work. Counting as four term hours.*

PROFESSOR LAMBERT

44-12. Theoretical Biology. A reference reading and thesis course designed to introduce the student to some of the more important literature dealing with the scientific and philosophical problem of man's place in nature. A thesis based upon reference reading and dealing with the problem of the physical and mental evolution of man is required. Open to Seniors and Juniors but may not be offered as a part of the science requirement for a degree. *One lecture, one conference hour and four hours of reference reading. Counting as six term hours.* PROFESSOR NEAL

44-13. Ornithology. A field and laboratory course in the study of our native birds. (s). To be taken in conjunction with Biology 1. *One three hour laboratory period or field trip a week. Counting as one term hour.* PROFESSOR NEAL

54 GEOLOGY

PROFESSOR LANE

54-1. Physical Geology and Geography. Primarily intended for Jackson students who may wish to teach Physical Geography in high schools, but there is also room for engineering students who cannot find place for 54-5 and 54-23 and 24. The text-books are Tarr (New Physical Geography) and Tarr & Von Engeln (Laboratory Manual of Physical Geography). A few lectures in geology will be given. *Three periods a week and seven required Saturday afternoon excursions. Counting as three term hours.* (S)

PROFESSOR LANE

54-5. Physical Geology. Studies the processes which have left their records on the earth. Frequent excursions. *Wednesday afternoons must be kept for this course. Counting as three term hours.* (F)

PROFESSOR LANE

A knowledge of Chemistry, Physics and Trigonometry is presupposed.

54-23. Economic Geology. The various natural sources of supply for man's needs and the economic and geologic principles governing their valuation and development. The instruction is chiefly by lectures and the work is mainly collateral reading. This subject should be taken with 54-24 and should be preceded by some course in Geology or Mineralogy. *One period a week. Counting as one term hour.* (S)

PROFESSOR LANE

54-24. Historical Geology. A study of the geological periods, with field excursions and laboratory work on fossils. *Wednesday afternoons must be kept for this course. Counting as two term hours.*(S) PROFESSOR LANE
Geology 1 or 5 must precede; Biology 1 is helpful.

[54-3. Mathematical Problems presented to geologists. Conferences and critical reading of selected papers and original work. Mathematics 4 must precede Geology 3; Mathematics 6 must precede or accompany it. *Counting as three term hours each half-year.* PROFESSOR LANE]

[54-4. Field Geology. Conference, one hour; field work, six hours a week; open to students who have taken Geology 24. *First part of first and last part of second half-year. Counting as three term hours.*

PROFESSOR LANE]

64 MINERALOGY

PROFESSOR LANE

Professor Lane would be glad to advise students wishing to take a thesis subject in Chemistry or Mathematics of geological, mineralogical or crystallographic interest.

64-1. Mineralogy and Lithology. Open to students who have taken Chemistry 1. *Two recitations and four hours of laboratory work or excursion. Counting as three term hours.* (F)

PROFESSOR LANE

[64-2. Crystallography and Advanced Mineralogy. Open to students have taken Mineralogy 1. *Two lectures and four hours laboratory work and field excursions.* (S) *Counting as three term hours.*

PROFESSOR LANE]

38 MUSIC

PROFESSOR LEWIS

38-9. Musical Appreciation, Elementary. Systematic studies in musical essentials from the listener's standpoint. (F)

PROFESSOR LEWIS

For Music 9 no technical preparation is requisite, but ability to recognize a melody is presupposed. Ability to follow a piano score is very helpful. Outside reading and laboratory study with automatic instruments are required. Music 9 is given in Tufts and Jackson in alternate years. In 1915-1916 it is given in Tufts.

38-10. Musical Appreciation, Intermediate. A continuation of Music 9. (S)

PROFESSOR LEWIS

[1. Elements of Theory. Lectures, practice, and analysis, with various text-books for reference. (F)

PROFESSOR LEWIS]

Only acquaintance with musical notation and with the piano keyboard is required. Music 1 is introductory to Music 21.

[38-21. Harmony. Lectures and practical work, based on Chadwick's Manual of Harmony; collateral reading on biography and theory. (S)

PROFESSOR LEWIS]

38-22. Advanced Harmony and Elementary Counterpoint. A continuation of Music 21. (F)

PROFESSOR LEWIS

A full equivalent of Music 1 and 21 must have been done by students who wish to begin their college work with Music 22.

[38-3. Sight-reading in Song, and Harmonic Analysis. (S)

PROFESSOR LEWIS]

Only those who have finished Music 22 may take Music 3. The harmonic analysis begun in Music 22 is continued, with special attention to the problems of modern music. Harmonic Analysis, by B. Cutter, and Melodia, by Cole and Lewis, are the text-books.

38-24. Counterpoint. Lectures and practical work, based on the manuals of Goetschius, Spalding, and others; collateral reading on biography and theory. (s) PROFESSOR LEWIS

Laboratory work with the automatic instruments is required.

[38-6. General History of Music, from the earliest times to the present day, with special attention to the period since the death of Palestrina. Lectures, with various treatises for reference. (s) PROFESSOR LEWIS]

38-25. Studies in one or more of the following subjects: Canon, Fugue, Orchestration, Form, Free composition, Musical History, Musical Criticism. PROFESSOR LEWIS

The studies may be directed by lectures, or may consist of individual work of students under the supervision of the instructor. Requirements as to previous studies in Music and in foreign languages will be given on application to the instructor.

88 PHYSICAL EDUCATION

DR. L. R. BURNETT, Director

The aim of the department is to secure the interest and participation of the students in such exercises and training as they need for corrective, hygienic, and recreative purposes.

Lectures on anatomy, physiology, and personal hygiene are given during the first term of the Freshman year. Regular class exercises in the gymnasium during the winter, and outdoor exercise in the fall and spring, are required two hours a week of all undergraduate students, for the first two years following admission to college. A medical examination is given and physical measurements and strength tests of all students are taken.

THEOLOGY

All the subjects offered in the Theological School are open to election by qualified students in the School of Liberal Arts. For details see the announcement of the Crane Theological School.

Time-Schedule for the Year 1915-16

SCHOOL OF LIBERAL ARTS AND JACKSON COLLEGE

Initials are used for the days of the week. The numeral following these letters indicates the program-hour, not the time of day. The working day is divided into eight periods as follows:

1	8.00	5	12.10
2	8.50	6	2.10
3	9.50	7	3.10
4	11.10	8	4.10

Thus *MWF 2* means Monday, Wednesday and Friday at 8.50; *TTS 4* means Tuesday, Thursday and Saturday at 11.10.

(F) indicates that the subject is offered for the first half-year only, (s) that it is offered for the second half-year only. All subjects not so indicated extend through both terms.

The hour for the Tufts division is indicated by the letter T; for the Jackson division by J. All subjects not so indicated are open to students of both colleges.

For detailed description of the subjects, students are referred to the departmental statements.

12-1 (F) English T <i>MWF 3</i> or <i>TTS 3</i> ; J <i>TTS 4</i>	16-3 (F) Philosophy <i>MWF 4</i>
12-2 (s) English T <i>MWF 3</i> or <i>TTS 3</i> ; J <i>TTS 4</i>	16-4 (s) Philosophy <i>MWF 4</i>
12-4 (s) English <i>TTS 3</i>	16-15 Philosophy <i>TTS 2</i>
12-10 English <i>TTS 2</i>	16-55 Philosophy <i>MWF 3</i>
12-11 English T <i>MWF 5</i> ; J <i>MWF 2</i>	18-1 (s) Oratory <i>MWF 4</i>
12-13 (s) English <i>TTS 5</i>	22-1 German T <i>MWF 3</i> ; J <i>MWF 5</i>
12-17 (F) English <i>MWF 3</i>	22-2 German T <i>MWF 2</i> ; J <i>TTS 2</i>
12-18 (s) English <i>MWF 3</i>	22-3 German T <i>MWF 4</i> ; J <i>MWF 4</i>
12-23 (F) English <i>MF 78</i>	22-3B German <i>TTS 5</i>
12-24 (F) English <i>TTS 2</i>	22-4 German <i>MWF 5</i>
12-25 English <i>TTS 4</i>	22-5 German <i>MWF 6</i>
12-29 English <i>Tu 67</i>	24-1 Physics T <i>TT 4</i> ; J <i>TT 3</i> Laboratory on <i>M Tu W Th</i> or <i>F 678</i>
12-36 (s) English <i>TTS 2</i>	24-2 (F) Physics <i>MWF 5</i>
14-4 (F) Mathematics <i>TTS 4</i>	24-6 (s) Physics <i>MWF 5</i>
14-5 (s) Mathematics <i>TTS 4</i>	24-7 Physics <i>W 678</i>
14-6 (F) Mathematics <i>TTS 2</i>	24-11 (F) Physics <i>To be arranged</i>
14-8 (s) Mathematics <i>TTS 3</i>	24-17 Physics <i>To be arranged</i>
14-9 (F) Mathematics <i>TTS 3</i>	24-21 Physics <i>TT 7</i>
14-10 (s) Mathematics <i>TTS 2</i>	26-4 (s) Education <i>MWF 8</i>
{ 14-21 Mathematics } <i>MWF 12</i>	26-5 (F) Education <i>TTS 1</i>
{ 21-21 Graphics } or <i>67</i>	26-7 (s) Education <i>To be arranged</i>
First term also <i>TTS 12</i>	28-1 (F) Class. Arch. <i>MWF 4</i>
16-1 (F) Philosophy <i>TTS 4</i>	

- 28-2 (s) Class. Arch. *MWF 4*
 28-7 (F) Class. Arch. *MWF 5*
 28-8 (s) Class. Arch. *MWF 5*
 32-1 French *MWF 3*
 32-2 French T *MWF 2*; J *MWF 7*
 32-3 French T *MWF 6*; J *MWF 6*
 32-3B French *TTS 5*
 32-4 French *TTS 2*
 32-5 French *TTS 2*
 32-6 French *TTS 3*
 34-1 Chemistry *Tu 5678 Th 5*
 34-4 Chemistry *TTS 123*
 34-5 Chemistry *TTS 123*
 34-7 (s) Chemistry *WF 678*
 34-8 (s) Chemistry *WF 4*
 34-9 (F) Chemistry *F 123*
 34-11 Chemistry *MF 5*; *M 678*
 34-16 Chemistry *To be arranged*
 34-17 Chemistry *TT 8*; *M 123*
 35-2 (F) Chemistry *MF 123* or *678*
 35-3 (s) Chemistry *MF 678*
 35-10 Chemistry *TTS 5*; *W 123*
 36-1 History *MWF 5* or *TTS 4*
 36-2 History *MWF 2*
 36-3 History *MWF 4*
 36-9 History *TTS 5*
 36-15 History *To be arranged*
 38-9 (F) Music T *TTS 5*
 38-10 (s) Music T *TTS 5*
 38-22 (F) Music *Tu 6, Th 67*
 38-24 (s) Music *Tu 6, Th 67*
 38-25 Music *To be arranged*
 44-1 Biology *TT 678*
 44-3 Biology *MF 678*
 44-7 Biology *MF 678*
 44-8 Biology *To be arranged*
 44-11 Biology *MF 678*
 44-12 Biology *TT 5*
 44-13 (s) Biology *S 1*
 46-1 (F) Public Law *MWF 2*
 46-3 (s) Public Law *MWF 2*
 46-10 Public Law *TTS 3*
 52-1 Latin T *TTS 2*; J *MWF 3*
 52-2 Latin *TTS 4*
 52-3 Latin *TTS 3*
 52-5 Latin *To be arranged*
 52-6 Latin *To be arranged*
 54-1 (s) Geology *TTS 3* or *4*
 54-5 (F) Geology *W 5678*; *F 6*
 54-23 (s) Geology *W 5*
 54-24 (s) Geology *W 678*; *F 6*
 62-1 Greek *MWF 3*; *TTS 2*
 62-2 Greek *TTS 5*
 62-5 Greek *TTS 4*
 62-7 Greek *To be arranged*
 64-1 (F) Mineralogy *M 45*; *TT 67*
 64-2 (s) Mineralogy *M 45*; *TT 67*
 66-1 Pol. Science *MWF 2*
 66-3 (F) Pol. Science *MWF 3*
 66-4 (F) Pol. Science *MWF 4*
 66-5 (s) Pol. Science *MWF 4*
 66-6 (F) Pol. Science *MWF 3*
 66-7 (s) Pol. Science *To be arranged*
 66-13 (s) Pol. Science *MFW 3*
 66-16 (s) Pol. Science *MFW 3*
 66-17 Pol. Science *TTS 3*
 66-18 Pol. Science *TTS 2*
 92-1 Spanish *TTS 3*

JACKSON COLLEGE FOR WOMEN

CAROLINE STODDER DAVIES, A.M., Dean

Standing Committees

PROMOTIONS: Dean Davies, *Chairman* ; Professors Wren, Fay, Metcalf, and Neal.

STUDENT ORGANIZATIONS: Dean Davies, *Chairman* ; Professors Fay and Gilmer.

Faculty of Jackson College for Women

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D. PRESIDENT

CAROLINE S. DAVIES, A.M. DEAN

Professor of English

WILLIAM H. REED, A.M., SECRETARY

Assistant Professor of Modern Languages

Professors

Arranged in the order of their service at Tufts College

CHARLES E. FAY, A.M., LITT.D.

Wade Professor of Modern Languages

WILLIAM G. TOUSEY, A.M., S.T.D.

Logic and Ethics

FRANK W. DURKEE, A.M.

Chemistry

LEO R. LEWIS, A.M.

History and Theory of Music

FRANK G. WREN, A.M.

Walker Professor of Mathematics

FRED D. LAMBERT, PH.D.

Botany

WILLIAM K. DENISON, A.M.

Latin Language and Literature

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

EDWIN C. BOLLES, PH.D., D.D., LL.D.

Dickson Professor of English and American History

WILLIAM R. RANSOM, A.M.

Mathematics

ALFRED C. LANE, PH.D., SC.D.

Pearson Professor of Geology and Mineralogy

HENRY I. CUSHMAN, A.M., D.D.

Homiletics

HINCKLEY G. MITCHELL, D.D.

Hebrew and Old Testament Exegesis

ARTHUR I. ANDREWS, PH.D.

History and Public Law

KARL SCHMIDT, PH.D.

Philosophy and Education

LEE S. MCCOLLESTER, S.T.D.

Packard Professor of Christian Theology

HERBERT V. NEAL, PH.D.

Zoology

CLARENCE R. SKINNER, A.M.

Applied Christianity

CHARLES H. GRAY, PH.D.

English

Assistant Professors

Arranged in the order of their service at Tufts College

ALEXANDER DILLINGHAM, A.M.

Mathematics

ALBERT H. GILMER, A.M.

English

HENRY H. MARVIN, PH.D.

Physics

EUGENE H. BABBITT, A.B.

Modern Languages

Instructors

FREDERICK O. ASPINWALL, M.S.

Chemistry

CROSBY F. BAKER, M.S.

Chemistry

MARY C. MURRAY

Physical Education

JOSEPH CHANDLER, PH.D.

Organic Chemistry

JOHN L. C. KEEGEN, A.M.

English

NATHANIEL H. KNIGHT, B.S.

Physics

FRANK W. POTE, B.S.

Physics

HARRIS RICE, S.B.

Walker Special Instructor in Mathematics

RALPH B. WILSON, A.M.

Political Science

WILLIAM F. WYATT, PH.D.

Greek

House Mistresses

MRS. LAURA E. LEWIS

Richardson House

MISS MARY C. MURRAY

Start House

MRS. GRACE G. WATERMAN

Metcalf Hall

Jackson College for Women

Women are admitted to the courses of instruction given at Tufts College on the same terms as men. The Faculty of Jackson College for Women is the same as the Faculty of the School of Liberal Arts and in many cases, particularly in the sciences, the men and women attend classes in common and work in the same laboratories.

The buildings exclusively occupied by Jackson College are six in number. Miner Hall contains the office of the Dean of Women and various classrooms and reception rooms. It is located near the College Library. Metcalf Hall is the principal dormitory, and contains the refectory; this building serves as a general headquarters for the women students, and its plan and furnishings are well adapted to this purpose. Start House and Richardson House are smaller dormitories, each under the direct supervision of a resident house mistress. The Dean of Women resides in a cottage adjoining Metcalf Hall, and women students are free to call upon her at such times as they may desire to meet her in her home, or to seek special counsel or advice.

The women's gymnasium is a small building excellently equipped with apparatus. The main room is frequently used as an auditorium. It has a small stage well supplied with facilities for various dramatic activities.

The requirements for the degrees of A.B. or B.S. are the same as in Tufts College. The diploma is certified by the President of Tufts College and the Secretary of the Trustees as similar and equal to that issued under like name and similar conditions to the students of Tufts College.

EXPENSES

The tuition charges and incidental expenses are the same as in the School of Liberal Arts. Room rent in the several dormitories may be tabulated as follows; the prices given are the rate per student per term.

Dormitories for Women

Double Rooms				
	Metcalf	Richardson	Start	Total
\$20.00	1	.	.	1
22.50	2	.	.	2
25.00	.	.	1	1
27.50	.	.	1	1
30.00	2	7	3	12
37.50	4	.	.	4
42.50	4	.	.	4
Total Double Rooms	13	7	5	25
Single Rooms				
\$20.00	1	.	1	2
25.00	1	.	.	1
30.00	.	4	.	4
37.50	4	.	.	4
Total Single Rooms	6	4	1	11
Total	19	11	6	36

Students are required to reside in the dormitories or with their families unless otherwise arranged with the Dean of Women.

REGISTRATION

The conditions controlling admission to Jackson College are in general the same as those controlling admission to any of the associated schools and are given in detail in the earlier part of this publication. Those intending to enroll as students should make their intentions known to the Dean as early as possible.

SCHOLARSHIPS

In addition to the scholarships named below, with the amount of their endowments, a portion of the scholarship funds of Tufts college has been set apart for the students of Jackson College. Applications should be addressed to the Committee on Scholarships.

THE JOHN AND LUCY H. STOWE SCHOLARSHIPS. (5) \$10,000
Five scholarships for women students. Founded in 1894 and 1902 by Mrs. Lucy H. Stowe of Lawrence.

THE MARY AND LUTHER GILBERT SCHOLARSHIPS. (2) \$4,000
Two scholarships. Founded in 1902 and 1904 by Mrs. Mary G. Knight, of Roxbury, for the benefit of women.

THE CHARLES A. AND CORNELIA B. SKINNER SCHOLARSHIP. \$1,000
Founded in 1907 by Rev. Charles A. Skinner, D.D., and Mrs. Cornelia B. Skinner, of Cambridge, Mass.

THE ALPHA OMICRON PI PRIZE SCHOLARSHIP.
An annual gift of \$50. by the Alumnæ of the Tufts Chapter of Alpha Omicron Pi, and given to that woman in the senior class who shall have made the best record in the prescribed work of the A. B. Course.

THE ALPHA XI DELTA PRIZE SCHOLARSHIP.
An annual gift of \$50. by the Lambda Chapter and Alumnæ of Alpha Xi Delta and given annually to that senior who, at the end of the Junior year, shall have maintained the highest excellence in a course of study broadly and wisely chosen.

THE CHI OMEGA PRIZE SCHOLARSHIP.
An annual gift of \$50. by the Alumnæ of the Chi Alpha Chapter of Tufts College, to be given annually to a student of Jackson College who at the end of her Junior year has attained commendable scholarship in Economics and Sociology and has shown a keen interest in Social Service. The purpose of this scholarship is to encourage practical work during her Senior year.

THE BOSTON ALUMNÆ CHAPTER OF SIGMA KAPPA SCHOLARSHIP.
An annual gift of \$50. by the Boston Alumnæ Chapter of Sigma Kappa, representing Boston University and Jackson College, available at Boston University on the even year, beginning 1914, and at Jackson College on the odd year, to be given to a sorority or non-sorority girl, worthy in character and scholarship, who is struggling to meet the expenses of a college education.

LOANS AND AIDS

The Woman's Universalist Missionary Society of Massachusetts maintains a fund for the use of students of Jackson College. The scholarships, which have a value of \$100, are restricted to Universalists. It is understood that the beneficiaries in due time will return an equivalent amount to the Fund.

The Hettie Lang Shuman Memorial Fund was founded in 1905 by Mr. A. Shuman, who presented one thousand dollars to the College, in memory of his wife. The interest of this fund is annually expended in aiding deserving women students.

ENGINEERING SCHOOL

GARDNER CHACE ANTHONY, Sc.D., Dean

Standing Committees

CURRICULUM: Dean Anthony, *Chairman*; Professors Hooper, Durkee, Sanborn, Earle, Chase, and Rockwell.

PROMOTIONS: Dean Anthony, *Chairman*; Professors Ransom, Rockwell, and Assistant Professors Ashley and Conner.

Faculty of the Engineering School

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

GARDNER C. ANTHONY, A.M., SC.D., DEAN

*Professor of Technical Drawing. Acting Head of Department of
Mechanical Engineering*

WILLIAM H. REED, A.M., SECRETARY

Professors

Arranged in the order of their service at Tufts College.

WILLIAM L. HOOPER, A.M., PH.D., LL.D.

Electrical Engineering

FRANK W. DURKEE, A.M.

Chemistry

SAMUEL C. EARLE, A.M.

English

CHARLES H. CHASE, S.B.

Steam Engineering

HENRY C. METCALF, A.B., PH.D.

Political Science

WILLIAM R. RANSOM, A.M.

Mathematics

FRANK B. SANBORN, C.E., M.S.

Civil Engineering

EDWARD H. ROCKWELL, S.B.

Structural Engineering

ALFRED C. LANE, A.M., PH.D., SC.D.

Geology and Mineralogy

Assistant Professors

Arranged in the order of their service at Tufts College.

GEORGE F. ASHLEY

Technical Drawing

EDWIN B. ROLLINS, B.S.

Electrical Engineering

MELVILLE S. MUNRO, B.S.

Electrical Engineering

ALEXANDER DILLINGHAM, A.M.

Mathematics

FRANK E. SEAVEY, A.M.

English

RICHARD C. SMITH, B.S.

Structural Engineering

SAMUEL L. CONNER, B.S., M.S.

Railroad Engineering

HOWARD H. CARROLL, S.B.

Technical Drawing.

HENRY H. MARVIN, B.S., PH.D.

Physics

Instructors

CONRAD A. ADAMS, B.S.

Mechanic Arts

FREDERICK O. ASPINWALL, M.S.

Chemistry

CROSBY F. BAKER, M.S.

Chemistry

HARRY P. BURDEN, B.S.

Civil Engineering

JOSEPH CHANDLER, PH.D.

Organic Chemistry

MYRON J. FILES, A.B.

English

MERRILL C. HILL, A.M.

Modern Languages

NATHANIEL H. KNIGHT, B.S.

Physics

EDGAR MACNAUGHTON, M.E.

Mechanical Engineering

FRANK W. POTE, B.S.

Physics

HARRIS RICE, S.B.

Walker Special Instructor in Mathematics

Courses of Instruction

The School offers courses leading to the degree of Bachelor of Science in CIVIL ENGINEERING, STRUCTURAL ENGINEERING, MECHANICAL ENGINEERING, ELECTRICAL ENGINEERING, and CHEMICAL ENGINEERING.

During the first two years the course of study and elective privileges are the same for all departments. The importance of developing the power to write clear and concise English is emphasized by correlating this subject with the work of other departments, thus making it a fundamental subject for technical training. The subjects of Mathematics, Physics, Chemistry, Technical Drawing and of Mechanic Arts, being common to every field of engineering, are required of all students. The more technical work of the Junior and Senior years is tabulated in the following pages under the headings of the respective departments.

REQUIREMENTS FOR THE DEGREE

One hundred and forty term hours are required for graduation, this being the equivalent of about fifty-two hours of study, recitation, and laboratory hours per week. A grade of C or higher must be obtained in at least seventy term hours.

RELATION OF THE SEVERAL DEPARTMENTS

Freshman and Sophomore	Junior	Senior
General course common to all	Civil and Structural	{ Civil Structural
	Mechanical and Electrical	{ Mechanical Electrical
	Chemical	Chemical

OUTLINE OF COURSES

An index of the subjects, and key to the system of numbering may be found on the pages immediately following the Outline of Courses. Following the index are the details of the subjects in their numerical order.

FRESHMAN YEAR

[Alike for all courses.]			
FIRST TERM		SECOND TERM	
	Term hour		Term hour
11-1 English	3	11-2 English	3
13-2 †French or	}	13-2 †French or	}
15-2 †German		15-2 †German	
21-2 †Graphics	2	21-3 Graphics	3
21-21 Graphics	1	21-21 Graphics	1
25-2 †Mechanic Arts	2	25-2 †Mechanic Arts	2
25-3 Mechanic Arts	2	25-3 Mechanic Arts	2
29-21 Mathematics	2	29-21 Mathematics	2
29-22 Mathematics	3	31-1 Physics	3
41-4 Surveying	2	71-1 Elementary Power Engineering	2
88 Physical Training	½	88 Physical Training	½

SOPHOMORE YEAR

[Alike for all courses.]			
FIRST TERM		SECOND TERM	
	Term hour		Term hour
21-8 Drawing	3	21-13 Mechanism	3
29-4 Mathematics	3	29-5 Mathematics	3
31-2 Physics	3	31-7 Physical Laboratory	1½
31-7 Physical Laboratory	1½	35-1 Chemistry	3
35-1 Chemistry	3	41-3 Surveying	2
41-3 Surveying	1	45-21 Mechanics	3
88 Physical Training	½	88 Physical Training	½
Total	15	Total	16

Electives

English, French or German.

Electives

English, French or German.

†As the courses to be pursued in Modern Language, Graphics and Mechanic Arts are dependent on the preparation of each student, definite instruction for the selection thereof is given at the time of registration.

JUNIOR YEAR

CIVIL AND STRUCTURAL ENGINEERING

FIRST TERM		SECOND TERM	
	Term hour		Term hour
35-2	Qualitative Analysis	41-13	Railroad Engineering
41-12	Railroad Surveying	41-21	Highways
41 40	Hydraulics	41-43	Hydraulic Measurements
45-1	Applied Mechanics	45-2	Applied Mechanics
45-12	Applied Mechanics Laboratory	47-3	Structural Design
51-1	Steam Engine	81-2	Economics
81-2	Economics		
Total		Total	
<i>Electives</i>		<i>Electives</i>	
11-	English	11-	English
14-	Mathematics	14-	Mathematics
54-	Geology	54-	Geology

MECHANICAL AND ELECTRICAL ENGINEERING

FIRST TERM		SECOND TERM	
	Term hour		Term hour
25-8	Mechanic Arts	45-2	Applied Mechanics
35-2	Qualitative Analysis	41-41	Hydraulics
45-1	Applied Mechanics	51-3	Engineering Thermodynamics
45-12	Applied Mechanics Laboratory	51-21	Mechanical Engineering Lab.
51-1	Steam Engine	61-5	Alt. Current Machinery
61-3	Dynamo-Electric Machinery	61-8	Electrical Laboratory
81-2	Economics	81-2	Economics
Total		Total	
<i>Electives</i>		<i>Electives</i>	
11-	English	11-	English
14-	Mathematics	14-	Mathematics

CHEMICAL ENGINEERING

FIRST TERM		SECOND TERM	
	Term hour		Term hour
35-2	Qualitative Analysis	35-3	Qualitative Analysis
35-4	Quantitative Analysis	35-4	Quantitative Analysis
35-10	Organic Chemistry	35-10	Organic Chemistry
45-1	Applied Mechanics	41-41	Hydraulics
45-12	Applied Mechanics Laboratory	45-2	Applied Mechanics
51-1	Steam Engine	81-2	Economics
81-2	Economics		
Total		Total	
<i>Electives</i>		<i>Electives</i>	
11-	English	11-	English
14-	Mathematics	14-	Mathematics
	German 15 or 22		German 15 or 22
		24-2	Electricity and Magnetism

SENIOR YEAR

CIVIL ENGINEERING

FIRST TERM		Term hour	SECOND TERM		Term hour
41-14	Railroad Engineering	3	41-48	Sewerage	3
41-46	Water Supplies	3	41-63	Contracts	3
41-95	Civil Engineering Topics	2	41-99	Thesis	3-5
45-3	Structural Mechanics	3			
47-1	Roofs and Bridges	3			
	Total	14		Total	9-11
<i>Electives</i>			<i>Electives</i>		
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	
17-1	Spanish	3	17-1	Spanish	3
35-18	Chemistry of Road-building Materials	3	35-18	Chemistry of Road-building Materials	3
41-47	Water Power Engineering	3	41-17	Railroad Economics	3
47-7	Bridge Design	3	41-31	Geodesy	2
64-	Mineralogy		41-51	Fire Protection Engineering	2
66-	Economics		47-2	Theory of Structures	3
			47-8	Structural Design	2
			54-	Geology	
			66-	Economics	

STRUCTURAL ENGINEERING

FIRST TERM		Term hour	SECOND TERM		Term hour
41-46	Water Supplies	3	47-2	Theory of Structures	3
45-3	Structural Mechanics	3	47-8	Structural Design	2
47-1	Roofs and Bridges	3	47-99	Thesis	3-5
47-7	Bridge Design	3			
47-95	Structural Topics and Reports	2			
	Total	14		Total	8-10
<i>Electives</i>			<i>Electives</i>		
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	
17-1	Spanish	3	17-1	Spanish	3
41-14	Railroad Engineering	3	41-17	Railroad Economics	3
41-21	Highways	2	41-31	Geodesy	2
41-47	Water Power Engineering	3	41-48	Sewerage	3
64-	Mineralogy		41-51	Fire Protection Engineering	2
66-	Economics		41-63	Contracts	3
			54-	Geology	
			66-	Economics	

MECHANICAL ENGINEERING

FIRST TERM		Term hour	SECOND TERM		Term hours
51-7	Engine Design	3	51-8	Power Plant Design	3
51-15	Dynamics of Machinery	3	51-18	Machine Design	3
51-18	Machine Design	3	51-28	Mechanical Engineering Lab.	3
51-26	Mechanical Engineering Lab.	3	51-99	Thesis	3
Total		12	Total		12
<i>Electives</i>			<i>Electives</i>		
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	
17-1	Spanish	3	17-1.	Spanish	3
41-47	Water Power Engineering	3	41-63	Contracts	3
61-12	Dynamo Laboratory	3	51-95	Mech. Engineering Topics	2
61-14	Electricity	3	61-14	Electricity	3
61-15	Electrical Engineering	3	61-16	Electrical Engineering	3
61-23	Dynamo Design	3	66-	Economics	
66-	Economics				
81-5	Engineering Economics	3			

ELECTRICAL ENGINEERING

FIRST TERM		Term hour	SECOND TERM		Term hour
61-12	Dynamo Laboratory	3	51-14	Electricity	3
61-14	Electricity	3	61-16	Electrical Engineering	3
61-15	Electrical Engineering	3	61-99	Thesis	3-5
61-23	Dynamo Design	3	Total		9-11
Total		12			
<i>Electives</i>			<i>Electives</i>		
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	
17-1	Spanish	3	17-1	Spanish	3
41-47	Water Power Engineering	3	41-63	Contracts	3
51-7	Engine Design	3	51-8	Power Plant Design	3
51-15	Dynamics of Machinery	3	51-28	Mechanical Engineering Lab.	3
51-18	Mechanical Design	3	61-96	Electrical Topics	2
51-26	Mechanical Engineering Lab.	3	66-	Economics	
61-17	Telephone and Telegraph	3			
66-	Economics				
81-5	Engineering Economics				

CHEMICAL ENGINEERING

FIRST TERM		Term hours	SECOND TERM		Term hou
35-5	Quantitative Analysis	3	35-5	Quantitative Analysis	3
35-9	Gas Analysis	1	35-7	Fire Assay	2
35-11	Theoretical Chemistry	3	35-8	Metallurgy	2
35-17	Applied Chemistry	3	35-11	Theoretical Chemistry	3
61-3	Dynamo-Electric Machinery	3	35-17	Applied Chemistry	3
Total		13	35-99	Thesis	3-5
			Total		16-18
<i>Electives</i>			<i>Electives</i>		
11-	English		11-	English	
14-	Mathematics		14-	Mathematics	
	German 15 or 22	3		German 15 or 22	3
17-1	Spanish	3	17-1	Spanish	3
41-46	Water Supplies	3	41-48	Sewerage	3
54-	Geology		54-	Geology	3
64-	Mineralogy		61-8	Electrical Laboratory	3
66-	Economics		66-	Economics	
1-5	Engineering Economics	3			

Index to Subjects

No.	Term Hours	SUBJECT	No.	Term Hours	SUBJECT
11 ENGLISH					
11-1	3	English (First Term)	35-18	*6	Chemistry of Road-building Materials
11-2	3	English (Second Term)	35-99	3-5	Chemical Engineering Thesis
11-4	2	Narration	41 CIVIL ENGINEERING		
11-5	3	General English Literature	41-3	f3	Surveying
11-6	2	English Literature, 19th Century	41-4	2	Surveying
[11-7	2	Advanced English Literature]	41-12	3	Railroad Surveying
11-8	2	Technical Exposition	41-13	3	Railroad Engineering
11-9	2	Technical Theses	41-14	3	Railroad Engineering
11-13	3	Argumentation	41-17	3	Railroad Engineering Economics
13 FRENCH					
13-1	*6	French	41-21	2	Highways and Cements
13-2	*6	French	41-31	2	Geodesy
13-3	3	French	41-40	3	Hydraulics
15 GERMAN					
15-2	*6	German	41-41	2	Hydraulics
15-3	3	German	41-43	2	Hydraulic Measurements
17 SPANISH					
17-1	*6	Spanish	41-46	3	Water Supplies
21 DRAWING					
21-2	2	Graphics	41-47	3	Water Power Engineering
21-3	3	Graphics	41-48	3	Sewerage
21-8	3	Drawing	41-51	2	Fire Protection Engineering
21-13	3	Mechanism	41-63	3	Contracts
21-21***2		Graphics	41-95	2	Civil Engineering Topics
25 MECHANIC ARTS					
25-2	2	Mechanic Arts	41-99	3-5	Civil Engineering Thesis
25-3	2	Mechanic Arts	45 APPLIED MECHANICS		
25-8	3	Metal Work	45-1	3	Applied Mechanics
29 MATHEMATICS					
29-4	3	Sophomore Calculus	45-2	3	Applied Mechanics
29-5	3	Sophomore Calculus	45-3	3	Structural Mechanics
29-21 *	*4	Freshman Mathematics	45-12	1	Applied Mechanics Laboratory
29-22	3	Freshman Mathematics	45-21	3	Mechanics
31 PHYSICS					
31-1	3	Mechanics and Sound	47 STRUCTURAL ENGINEERING		
31-2	3	Electricity and Magnetism, and Light	47-1	3	Roofs and Bridges
31-7	§3	Physical Laboratory	47-2	3	Theory of Structures
35 CHEMISTRY					
35-1	*6	General Inorganic Chemistry	47-3	3	Structural Design, Elementary
35-2	2	Qualitative Analysis	47-7	3	Bridge Design
35-3	2	Qualitative Analysis, Advanced	47-8	2	Structural Design, Advanced
35-4	*6	Quantitative Analysis	47-95	2	Structural Topics and Reports
35-5	*6	Quantitative Analysis, Technical	47-99	3-5	Structural Engineering Thesis
35-7	2	Fire Assay	51 MECHANICAL ENGINEERING		
35-8	2	Metallurgy of Iron and Steel	51-1	3	Steam Engine
35-9	1	Technical Gas Analysis	51-3	3	Thermodynamics
35-10	||8	Organic Chemistry	51-7	3	Engine Design
35-11	*6	Theoretical Chemistry	51-8	3	Power Plant Design
35-17	*6	Applied Chemistry	51-15	3	Dynamics of Machinery
			51-18	*6	Machine Design
			51-21	2	Mechanical Engineering Laboratory
			51-26	3	Mechanical Engineering Laboratory
			51-28	3	Mechanical Engineering Laboratory
			51-95	2	Mechanical Engineering Topics
			51-99	3	Mechanical Engineering Thesis

* Two terms; three term hours each.

† Two terms; first term, one term hour; second term, two term hours.

|| Two terms; four term hours each.

§ Two terms; one and one-half term hours each.

** Two terms; two term hours each.

*** Two terms; one term hour each.

54 GEOLOGY

54-1	3	Physical Geology and Geography
54-21	1	Physical Geography and Meteorology
54-22	2	Physical Geology
54-23	1	Economic Geology
54-24	2	Historical Geology

61-16	3	Electrical Engineering
61-17	3	Telephone and Telegraph
61-23	3	Dynamo Design.
61-96	2	Electrical Topics
61-99	3-5	Electrical Engineering Thesis

64 MINERALOGY

64-1	3	Mineralogy and Lithology
64-2	3	Crystallography and Descriptive Mineralogy

61 ELECTRICAL ENGINEERING

61-3	3	Dynamo-Electric Machinery
61-5	3	Alternating Current Machinery
61-8	3	Electrical Laboratory
61-12	3	Dynamo Laboratory
61-14	*6	Electricity
61-15	4	Electrical Engineering

71 GENERAL ENGINEERING

71-1	2	Elementary Power Engineering
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81 POLITICAL ECONOMY

81-2	*6	Elements of Economics
81-5	3	Engineering Economics

* Two terms ; three term hours each.

Examination Group System

The courses are divided into six groups. Each of these groups has assigned to it three periods of four days each for each half year, during which periods all announced examinations in the courses of that group are given. These examinations are limited to the time assigned to these subjects on the program.

Composition of groups and periods allotted to each are as follows :

FIRST HALF-YEAR

Subject Group	Subject Group	Subject Group	Subject Group
11-1 5	31-2 6	41-14 5	51-15 1
11-5 3	31-7 3	41-40 5	51-18 3
11-9 1	35-1 1	41-46 6	51-26 5
11-13 5	35-2 4	41-47 2	61-3 5
13-1 6	35-4 1	41-95 3	61-12 5
13-2 6	35-5 1	45-1 1	61-14 6
13-3 3	35-9 4	45-3 1	61-15 3
15-2 6	35-10 5	45-12 3	61-17 2
15-3 3	35-11 5	47-1 3	61-23 4
17-1 4	35-17 3	47-7 4	81-2 6
21-2 3	35-18	47-95 3	81-5 2
21-8 4	41-3 5	51-1 2	
21-21 4	41-4 6	51-7 6	
25-2 4	41-12 6		
25-3 4			
25-8 4			
29-21 1			
29-22 2			
29-4 2			
Group 1. Oct. 15, 16, 18, 19.	Nov. 12, 13, 15, 16.	Jan. 7, 8, 10, 11.	
" 2. Oct. 20, 21, 22, 23.	Nov. 17, 18, 19, 20.	Jan. 12, 13, 14, 15.	
" 3. Oct. 25, 26, 27, 28.	Nov. 22, 23, 26, 27.	Jan. 17, 18, 19, 20.	
" 4. Oct. 29, 30. Nov. 1, 2.	Nov. 29, 30. Dec. 1, 2.	Jan. 21, 22, 24, 25.	
" 5. Nov. 3, 4, 5, 6.	Dec. 3, 4, 6, 7.	Jan. 26, 27, 28, 29.	
" 6. Nov. 8, 9, 10, 11.	Dec. 8, 9, 10, 11.	Jan. 31. Feb. 1, 2, 3.	

Final Examinations February 4, 5, 7, 8, 9.

SECOND HALF-YEAR

Subject Group	Subject Group	Subject Group	Subject Group
11-2 5	31-7 3	41-21 3	51-8 6
11-4 5	35-1 1	41-31 3	51-18 4
11-6 3	35-3 6	41-41 5	51-21 3
11-8 3	35-4 1	41-43 5	51-28 5
13-1 6	35-5 1	41-48 4	51-95 3
13-2 6	35-7 6	41-51 2	61-5 2
15-2 6	35-8 4	41-63 1	61-8 4
17-1 4	35-10 5	45-2 1	61-14 2
21-3 3	35-11 5	45-21 4	61-16 4
21-13 6	35-17 3	47-2 6	61-96 3
21-21 1	41-3 5	47-3 2	71-1 4
25-2 4	41-13 4	47-8 3	81-2 6
25-3 3	41-17 5	51-3 4	
29-5 2			
29-21 1			
31-1 2			
Group 1.	Feb. 28, 29, Mar. 1, 2.	Mar. 27, 28, 29, 30.	May 3, 4, 5, 6.
" 2.	Mar. 3, 4, 6, 7.	Mar. 31. Apr. 1, 3, 4.	May 8, 9, 10, 11.
" 3.	Mar. 8, 9, 10, 11.	Apr. 5, 6, 7, 8.	May 12, 13, 15, 16.
" 4.	Mar. 13, 14, 15, 16.	Apr. 10, 11, 21, 22.	May 17, 18, 19, 20.
" 5.	Mar. 17, 18, 20, 21.	Apr. 24, 25, 26, 27.	May 22, 23, 24, 25.
" 6.	Mar. 22, 23, 24, 25.	Apr. 28, 29. May 1, 2.	May 26, 27, 29, 31.

Final examinations, June 10, 12, 13, 14, 15.

Departments of Instruction

ENGLISH and MODERN LANGUAGES

11-1 English. A study of the elemental forms of literary and scientific writing: description, exposition, directions, criticism, argument, and narration, with the ultimate aim of helping the student to think for himself. Reading of illustrative literature. *Four periods a week: one lecture, two recitations, and one ten-minute conference.*

First term. Three term hours.

ASSISTANT PROFESSOR SEAVEY, PROFESSOR EARLE, and MR. FILES

11-2 English. A study of actual problems in expression. Reading in general science and literature under the guidance of weekly lectures. *Four periods a week: one lecture, two recitations, and one ten-minute conference. Preparation, 11-1.*

Second term. Three term hours.

ASSISTANT PROFESSOR SEAVEY, PROFESSOR EARLE, and MR. FILES

11-4 English. An advanced subject in general composition, including the writing of daily and fortnightly themes. *Three periods a week: two recitations, and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

PROFESSOR EARLE

11-5 English. A brief survey of English literature and history, from the beginnings to about 1750, aiming to broaden the student's appreciation of what he may get from books, and to suggest ways in which the past throws light on the problems of the present. *Four periods a week: three lectures and one ten-minute conference. Preparation, 11-2.*

First term. Three term hours.

PROFESSOR EARLE, ASSISTANT PROFESSOR SEAVEY, and MR. FILES

11-6 English. A study of some of the most important literary and scientific developments of the nineteenth century. *Four periods a week: three lectures and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

ASSISTANT PROFESSOR SEAVEY

[11-7 English. Advanced English literature. A study of some author, period, or type. The definite work to be carried on will be outlined by the instructor in charge each June for the following term. *Three periods a week: two recitations and one thirty-minute conference. Preparation, 11-6.*

First term. Two term hours.]

11-8 English. A detailed study of the most important problems of technical writing. *Three periods a week: two recitations and one ten-minute conference. Preparation, 11-2.*

Second term. Two term hours.

PROFESSOR EARLE and ASSISTANT PROFESSOR SEAVEY

11-9 English. An advanced subject in technical composition. No class meetings; each student writes papers from ten to fifty pages in length under the individual direction of the instructor. The subjects are taken, as far as possible, from technical work previously done by the student outside of college, or from special research. *One thirty-minute conference a week. Preparation, 11-8.*

First term; repeated in second term. Two term hours.

PROFESSOR EARLE and ASSISTANT PROFESSOR SEAVEY

11-13 English. Argumentative composition adapted to meet the special needs of engineers. *Four periods a week: three recitations and one ten-minute conference. Preparation, 11-2*

First term. Three term hours. PROFESSOR EARLE and MR. FILES.

13-1 French. Elementary course. The essentials of grammar, with composition. Reading of short works of modern authors in prose and verse. Open to Freshmen whose entrance language is Latin, Greek, or Advanced German. *Three recitations a week.*

First and second terms. Six term hours.

MR. HILL

13-2 French. Review of grammatical principles especially with reference to difficulties encountered in translation. Outside reading of modern French novels. Class room work consisting of scientific reading from *L'annee Scientifique et Industrielle* for 1913. *Three recitations a week. Preparation, elementary credit in French, or 13-1.*

First and second terms. Six term hours.

MR. HILL

15-1. German. Elementary course. The essentials of grammar with composition. Reading of short works by modern authors. Grammar: Vos; Essentials of German. Open to Freshmen whose entrance Language is Latin, Greek or Advanced French. *Three recitations a week.*

First and second terms. Six term hours.

MR. HILL

15-2 German. Review of grammatical principles, especially with reference to difficulties encountered in translation. Outside reading of modern German texts. Class room work consisting of reading from German scientific works. *Three recitations a week. Preparation, elementary entrance credit in German, or 15-1.*

First and second term. Six term hours.

MR. HILL

15-3 German. The rapid reading of modern technical prose in contemporary authors. Outside reading of modern novels. Elective for Freshmen, Sophomores, Juniors, Seniors and B.S. students in Chemistry, who have passed 15-2 or its equivalent with at least a grade of C. *Three recitations a week.*

First term. Three term hours.

MR. HILL

15-4. German. Continuation of 15-3. *Three recitations a week.*

Second term. Three term hours.

MR. HILL

17-1 Spanish. Elementary course. The essentials of grammar; reading of modern prose; practice in writing Spanish. Open to those who have received a grade of C or higher in French 13-2, or German 15-2. All others wishing to elect the subject should consult the instructor. *Three recitations a week.*

First and second terms. Six term hours.

21 DRAWING

21-2 Graphics. Required of those who have had little or no previous instruction in technical drawing. The course consists of exercises in the proper use and care of drafting tools; a thorough study of the principals of orthographic projection with applied problems relating to engineering drawing. Special attention is given to lettering, tracing and dimensioning. *Two periods a week; three hours each.*

First term. Two term hours.

ASSISTANT PROFESSOR ASHLEY.

21-3 Graphics. A study of the principals of descriptive geometry and its application to engineering by the solution of problems in which theory and practice are closely correlated. *Three periods a week; two hours each. Preparation, 21-2.*

Second term. Three term hours.

ASSISTANT PROFESSORS CARROLL and ASHLEY.

21-8 Drawing. A study of the technique of graphic expression and its application in giving complete and accurate information to the constructor. Detailed and assembly drawings are made from freehand sketches and other data, but nothing in the nature of a copy is permitted. The work is conducted according to the methods of progressive draftsmen, the greatest emphasis being laid on completeness and accuracy in the use of graphic language. *Three periods a week; two hours each. Preparation, 21-2 and 21-3.*

First term. Three term hours.

ASSISTANT PROFESSOR CARROLL and MR. MACNAUGHTON

21-13 Mechanism. An introductory course, conducted mainly by graphical methods, and dealing with the fundamental laws governing the velocity ratio and paths of mechanical movements and their application to

velocity diagrams, simple types of gearing, and other modes of transmission. *Three periods a week; two hours each. Preparation, 21-2 and 21-3. Second term. Three term hours.*

ASSISTANT PROFESSORS ASHLEY and CARROLL

21-21 Graphics. Introductory course. Must be accompanied by the introductory course in Mathematics 29-21 and is required of all Freshmen. It comprises a general consideration of the principles and usages of the graphic language, including practice in the reading of a variety of drawings, and such training in the art of graphic expression as may be possible without the usual equipment necessary to instrumental work. *One period a week; two hours.*

First and second terms. 21-21 and 29-21, six term hours.

PROFESSOR ANTHONY, ASSISTANT PROFESSORS ASHLEY and CARROLL

25 MECHANIC ARTS

25-2. Woodworking. The course is intended to give a practical knowledge of woodworking hand tools and woodworking machines. Instruction is given in laying out work, sawing, planing, chiseling, boring, fitting, band and circular sawing, and is followed by lathe work, which includes center, chuck and face plate turning. Consideration is given to various commercial processes and manufacturing details. The laboratory work is based upon lectures, notes and class demonstrations. Frequent tests are given to insure a thorough knowledge of the principles involved. *Two periods per week; three hours each.*

First or second terms. Two term hours.

MR. ADAMS

25-3 Pattern Making. This is a laboratory course which comprises a study of the methods and principles of foundry practice leading to a knowledge of the requirements of pattern making. The course in pattern making consists of the layout and construction of split patterns, core boxes and built up work. The requirements of the moulder are constantly kept in mind and the several methods of construction possible in each case are discussed. Modern foundry and pattern shop methods are studied. The work in the shop is based on lectures, assignments from the text and class demonstrations, with frequent tests concerning the work at hand. *Two periods per week; three hours each.*

First or second term. Two term hours. Preparation 25-2 or its equivalent.

25-8 Metal Work. This course is introduced by work at the forge in bending, drawing, upsetting, welding, tool-dressing, etc., followed by work at the vise in chipping, filing, and fitting. Lathe work, including straight and taper turning, chucking, boring, reaming, and thread cutting; also drilling, planing, shaper and milling-machine work. *Three periods per week; three hours each.*

First term. Three term hours.

MR. ADAMS

29 MATHEMATICS

29-4 Sophomore Calculus. Review of differentiation and integration. Summation problems. Use of tables. Centroids, moments and averages. Three dimensional analysis. *Three hours a week. Preparation, 29-21 and 29-22*
First term. Three term hours.

ASSISTANT PROFESSOR DILLINGHAM

29-5 Sophomore Calculus. Approximate integration. Multiple integrals. Taylor's Theorem, and errors. Elements of Differential Equations. *Three hours a week. Preparation, 29-4.*

Second term. Three term hours.

PROFESSOR RANSOM and ASSISTANT PROFESSOR DILLINGHAM

29-21 Introductory Course. Must be accompanied by the introductory course in Graphics 21-21. Rounded numbers, trigonometric functions, 4-place logarithms, right triangles. Graphical representation of functions, typical variables. Rectangular coordinates, straight lines and standard curves. Elementary derivatives, rate problems, extreme values. Simple integrals, areas. *Two periods a week. Two hours each.*

First and second terms. 21-21 and 29-21, six term hours,

PROFESSORS WREN, RANSOM ASSISTANT PROFESSOR DILLINGHAM and
MR. RICE

29-22 Analysis and Computation. Algebraic and trigonometric transformations and equations; computation with 7-place logarithms and slide rule. Oblique plane and right spherical triangles. Curve tracing. *Three periods a week; one hour each.*

First term. Three term hours.

PROFESSOR RANSOM, ASSISTANT PROFESSOR DILLINGHAM and MR. RICE

31 PHYSICS

31-1 Mechanics, Sound, and Heat. The subjects considered are composition of forces, static and kinetic equilibrium, the laws of motion, the energy principle, the simple types of motion including uniform and uniformly accelerated motion, rotation about a fixed axis, simple harmonic motion, and wave motion and resonance; in heat, thermometry, expansion, calorimetry, change of state, transfer, sources, uses, and the laws of thermodynamics. *One lecture and two recitations per week. Preparation, 29-21 and 29-22.*

Second term. Three term hours.

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

31-2 Optics and Electricity. The subject of heat is carried over from the previous semester. Following this, the subjects considered are: Optics, sources of light, photometry, velocity, reflection, refraction, optical instruments, dispersion, color, interference, diffraction, polarization; in electricity,

electrostatics, the condenser, the electric current, Ohm's law and applications, power, magnetism, the magnetic circuit, electromagnetic induction, the principles of direct and alternating current machines and instruments.

One lecture and two recitations per week. Preparation, 31-1.

First term. Three term hours.

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

31-7. Physical Laboratory. The earlier experiments relate to the mechanics of solids, liquids and gases. These are followed by experiments in heat including thermometry, vapor pressure, expansion, calorimetry, and mechanical equivalent. The experiments in optics include refraction, elementary spectrum analysis, and optical instruments. The experiments in electricity include the measurement of resistance, current, electromotive force, and capacity. The use of various instruments of precision, and of graphical methods of interpreting data, is taught, so far as may be, in connection with these experiments. *One period of three hours, with one and one-half hours preparation, weekly. Preparation, 31-1 ; 31-2 simultaneously*

First and second terms. Three term hours.

ASSISTANT PROFESSOR MARVIN, MR. POTE, and MR. KNIGHT

35 CHEMISTRY

35-1 General Inorganic Chemistry. An introductory course in theoretical and descriptive inorganic chemistry, with a thorough consideration of the simplest carbon compounds and principal technical processes. *Three periods a week, two lectures, one three hour laboratory period with conferences.*

First and second terms. Six term hours.

PROFESSOR DURKEE, MR. BAKER, DR. CHANDLER and ASSISTANTS

35-2 Qualitative Analysis for the detection of the metals, a course which includes the experimental development of schemes for the division of the metals into groups, the separation and detection of the metals in each group, — a study of all the chemical changes and analytical details, together with the correct analysis of six known solutions and thirteen unknown. *Two periods a week ; three hours each ; laboratory work and conference. Six lectures.*

First term. Two term hours. PROFESSOR DURKEE, MR. BAKER and ASSISTANTS

35-3 Qualitative Analysis, Advanced, dealing with methods to effect solution of solids, the detection of mineral and common organic acids, the complete analysis of inorganic solids, including mixtures of salts, minerals, alloys, and slags. Three known and thirteen unknown are required, and thorough study of the chemical changes and conditions involved in the analyses. *Two periods a week ; three hours each ; laboratory work and conference.*

Second term. Two term hours.

MR. BAKER and ASSISTANT

35-4 Quantitative Analysis. Theory and practice of gravimetric and volumetric analysis, including the determination of chlorine by the ordinary and Gooch crucible methods, iron and sulphur in ferrous ammonium sulphate, silica in a silicate, phosphorus in a phosphate, complete analysis of dolomite, and brass, preparation of strictly half-normal sodium hydroxide and hydrochloric acid solutions, the volumetric analyses of soda ash and oxalic acid, the analysis of iron ore by the dichromate and permanganate methods, determination of chromium in chromite, of antimony by the iodine method, and silver by the sulphocyanate method. *Three periods a week ; three hours each ; laboratory work and conference.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-5 Quantitative Analysis. Technical. Work varied somewhat to meet the needs of individual students. Course ordinarily comprises proximate analysis of coal, nitrogen in coal, by Kjeldahl's method, complete analysis of boiler scale, mineral and sanitary analysis of water, determination of copper in ores by iodine and cyanide methods, of zinc by ferro-cyanide method, complete analysis of Babbitt metal, determination of lead in ores and manganese, sulphur, phosphorus, silicon and carbon in iron and steel. *Three periods a week ; three hours each ; laboratory work and conference.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-7 Fire Assay. A course which deals with the theory and practice of sampling and assaying gold and silver ores. *Two periods a week ; three hours each ; laboratory work and conference.*

Second term. Two term hours.

PROFESSOR DURKEE and ASSISTANT

35-8 Metallurgy of Iron and Steel. Considered largely from the chemical side, and includes the study of ores, fluxes, fuels, furnaces, and the other mechanical devices used in the commercial production of pig iron, wrought iron, and steel, together with the solution theory of iron and steel, heat treatment of steel, and production of malleable cast iron. *Two periods a week ; one hour each ; lectures and recitations.*

Second term. Two term hours.

MR. BAKER

35-9 Technical Gas Analysis, by the Orsat, Elliot, and Hempel systems. *One period a week, of three hours.*

First term. One term hour. PROFESSOR DURKEE and MR. ASPINWALL

35-10 Organic Chemistry. This course consists of lectures, recitations, and laboratory work. It is intended to familiarize the student with the typical compounds of carbon and their more important derivatives. The work in the laboratory includes the preparation of certain of the more important substances referred to in the lectures, and the identification of

certain classes of compounds. *Four periods a week; three lectures; one three-hour laboratory period.*

First and second terms. Eight term hours.

DR. CHANDLER and ASSISTANT

35-11 Theoretical Chemistry. The subject matter of this course consists largely of the principles usually included under the head of Physical Chemistry. The work in the laboratory consists of physical chemical measurements and experiments of a physical chemical nature. *Three periods a week, two lectures, one three-hour laboratory period.*

First and second terms. Six term hours.

DR. CHANDLER

35-17 Applied Chemistry. A course dealing with the most important applications of inorganic and organic chemistry to manufacturing purposes, such as the production of sulphuric acid, soda, illuminating gas, and sugar. *Three periods a week. Two lectures or recitations, and one three-hour laboratory period.*

First and second terms. Six term hours.

PROFESSOR DURKEE

35-18 Chemistry of Road-building Materials. The origin, production, refining, and chemical analysis of tars, asphalts, petroleum and coal tar oils, Portland and other cements. The course is designed for advanced students in highway engineering, and should fit them for efficient service in cement laboratories and cement plants, and for testing the bituminous materials now so widely applied to road surfaces. *Three periods a week; three hours each; laboratory work and conference. Preparation, 41-21, 35-1, and 35-2.*

First and second term. Six term hours.

PROFESSOR DURKEE

35-99 Chemical Engineering Thesis. The development of a Chemical Engineering problem by extended personal research. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSOR DURKEE and DR. CHANDLER

41 CIVIL ENGINEERING

41-3 Surveying. The course includes field practice with transit, level and plane table; also, an office drill in plotting and in surveying computations. The problems are selected to illustrate general surveying principles and include those relating to building construction and the installation of machinery, as well as those pertaining to ordinary surveys for topography and for area. Text-books; Tracy's Plane Surveying, and Topographical Drawing, by Daniels. *One three-hour period a week, first term; two three-hour periods a week, second term. Preparation, 29-21 and 29-22.*

First and second terms. Total, three term hours.

MR. BURDEN

An equivalent for this course may be taken during the summer.

41-4 Surveying. The elements of surveying; practice in the field associated with note-taking; mathematics applied to computations of dimensions, areas, and volumes; graphics by plotting and plan making. *Two periods a week; three hours each.*

First term. Two term hours.

PROFESSOR SANBORN and MR. BURDEN

41-12 Railroad Surveying. The greater part of the problems selected for this course are based on information secured by the student while engaged in the reconnoissance and preliminary survey of a short line of proposed railroad near the College. These problems consist of the more important ones that daily arise in the practice of the railroad engineer, and they comprise the determination and location of all simple and compound curves that might be required for the final location of any line; the accurate plotting of the survey notes by means of a system of co-ordinates; a preliminary estimate of the materials of construction required, and the completion of all drawings. Text books: Railroad Curves and Earthwork by Allen. *Three periods a week; three hours each. Preparation, 41-3 or 41-4.*

First term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-13 Railroad Engineering. A thorough analysis, both theoretical and practical, of the transition spiral; the study of earthwork computations, use of the mass diagram, determining cost of overhaul, use and computation of the vertical curve, proper methods of attack in steam-shovel work, the design and estimate of trestle construction, of culverts and waterways, and a general treatment of methods employed in locating all structures of standard design that support the roadbed. A brief study is made of the analysis of labor costs, and of the general principles underlying the scientific management of materials and men. Textbooks: The Railway Transition Spiral, by Talbot; American Civil Engineering Pocketbook. *Three periods a week; one hour each. Preparation, 41-12.*

Second term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-14 Railroad Engineering. A recitation course comprising the study of tunnel design, roadbed construction, track materials and track work, frogs and switches, yard and terminal layouts, siding design and construction, signaling and interlocking, equipment and tools, and the general principles of railroad maintenance. Problems are given in the elementary economic principles involved in railroad upkeep, the treatment of ties, and the capitalized comparison of structures. The student may be required to develop a proposed siding both for the design and the actual staking. Textbooks: The American Civil Engineers' Pocketbook. *Three periods a week; one hour each. Preparation, 41-13. First term. Three term hours.*

ASSISTANT PROFESSOR CONNER

41-17 Railroad Engineering Economics. Lectures and recitations on the economic principles underlying the proper management of all engineering business associated with the location, development, management, and operation of a railroad. A general outline of the procedure in financing railroad ventures is given with the attendant principles involved in bonding and underwriting such projects, and their application is fully demonstrated by the solution of typical problems. Text book: *Economics of Railroad Construction*, by Webb. *Three periods a week; one hour each. Preparation, 41-14.*

Second term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-21 Highways. Tests of sand, clay, cements, mortars, and crushed stone. Study of requirements and specifications. Tests of tars, oils, and asphalts. Study of sources, manufacture and requirements. Inspection of a tar refinery and laboratory where commercial methods may be observed.

Field survey for highway location. Study of topography, and conditions affecting location, design of highway, grades, and sections. Field study of types of permanent pavements and maintenance with textbook assignments. Text book: *American Civil Engineers' Pocketbook*. *One recitation and one three-hour laboratory period per week. Preparation, 41-3 or 41-4.*

Second term. Two term hours.

MR. BURDEN

41-31 Geodesy. The determination of a true meridian by star and solar observations, accurate measurement of a base line, of angles in a triangulation system, and the adjustment of observations by the method of least squares. *Two periods a week; three hours each. Preparation, 41-3.*

Second term. Two term hours.

ASSISTANT PROFESSOR CONNER

41-40 Hydraulics. Theoretical and Applied, including the laws that relate to the pressure and flow of water in pipes, the discharge through weirs, tubes, and canals, together with a treatment of the elementary principles of water turbines. Text book: *A Treatise on Hydraulics*, by Merriam. *Three periods a week; one hour each. Preparation, 29-21 and 29-22.*

First term. Three term hours.

PROFESSOR SANBORN

41-41. Hydraulics. A course similar to 41-40 differing from it only in length. Specially planned for students in Mechanical and Electrical Engineering. *Two periods a week; one hour each.*

Second term. Two term hours. Preparation, 29-21 and 29-22.

PROFESSOR SANBORN

41-43 Hydraulic Measurements. Experiments on contracted and submerged weirs, standard nozzles, proportional water meter, impulse water wheel, duplex pump, and centrifugal pump; river and canal gaugings by rod floats, and current meter. Tests of 100 horsepower turbine, 36-inch

Venturi Meter, 40-inch riveted pipe, and 10-foot weir. Text book: A Treatise on Hydraulics, by Merriman. *Two periods a week; three hours each. Preparation, 41-40.*

Second term. Two term hours.

PROFESSOR SANBORN

41-46 Water Supplies. The examination of water supplies, quality of water, communicable diseases, purification of water, water supplies, pipes, reservoirs, dams, pumping machinery. Textbook; American Civil Engineers' Pocketbook. *Three periods a week; one hour each. Preparation, 41-40.*

First term. Three term hours.

PROFESSOR SANBORN

41-47 Water Power Engineering. Water shed areas, stream flow, hydraulics of water wheels and turbines, turbine testing, selection of turbine for given conditions, water-power development and value of privileges. Text book: Water Power Engineering, by Mead. *Three periods a week; one hour each. Preparation, 41-40, or 41-41.*

First term. Three term hours.

PROFESSOR SANBORN

41-48 Sewerage. Purification of sewage, design of sewers, forms of construction, modern methods of sewage and garbage disposal, principles of irrigation and drainage. Text-book: American Civil Engineers' Pocketbook. *Three periods a week; two hours each. Preparation, 41-46.*

Second term. Three term hours.

PROFESSOR SANBORN

41-51 Fire Protection Engineering. Fire streams, fire pumps, meters, pipe systems, including automatic sprinklers, watchman service, public fire departments, fire causes, and fire-proof and slow-burning construction. Recitation and design from field practice. *Two periods a week; two hours each. Preparation, 41-40 or 41-41.*

Second term. Two term hours.

PROFESSOR SANBORN

41-63 Contracts. The essential elements of all contracts, their formation and modes of discharge, the fundamental principles of successful writing and interpretation of contracts for the erection of engineering works are carefully considered. Commercial contracts are also studied, including contracts of association, of sale, of transportation, and instruments of credit. The duties and legal responsibilities of the engineer as agent, business man, or independent contractor are emphasized, and some practice is had in writing engineering contracts and specifications. Text book: Contracts in Engineering by Tucker. *Three periods a week; one hour each.*

Second term. Three term hours.

ASSISTANT PROFESSOR CONNER

41-95 Civil Engineering Topics. Presentation and discussion of engineering topics. Text book: Proceedings of the American Society for Civil Engineers for the present year. *Two periods a week; one hour each. Preparation, Junior Civil Engineering courses.*

First term. Two term hours.

PROFESSOR SANBORN

41-99 Civil Engineering Thesis. A special investigation by research, design, or experimentation. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSOR SANBORN and ASSISTANT PROFESSOR CONNER

45 APPLIED MECHANICS

45-1 Applied Mechanics. This is a consideration of the principles of the strength of materials relating to beams, columns and shafts. In the development, the following subjects are treated in detail: centre of gravity; moment of inertia; the laws of elasticity; coefficients of elasticity; relations between stress and strain; pure stresses, as tension, compression, and shear; elastic limits, working stresses and ultimate resistances of wrought iron, steel, timber, and concrete; reactions and bending moments of beams; bending moment and shear diagrams; theory of flexure. It includes also the design and construction of steel and timber beams, columns, and shafts. *Three periods a week; recitations and lectures with numerous problems. Preparation, 29-4 and 45-21.*

First term. Three term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

45-2 Applied Mechanics. This course deals with the stresses in simple framed structures, including an introduction to the methods of graphic statics, and a brief treatment of the principles of mechanics involved in masonry design. *Three periods a week; recitations and lectures with problems. Preparation, 45-1.*

Second term. Three term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

45-3 Structural Mechanics. A treatment of the mechanics of masonry and reinforced concrete structures, including the design of retaining walls abutments, masonry arches, chimneys, dams, and foundations. *Three periods a week; recitations and lectures with problems and designs. Preparation, 45-2.*

First term. Three term hours.

PROFESSOR ROCKWELL

45-12 Applied Mechanics Laboratory. This course deals with the resistance of the materials of construction, and comprises the testing of cast iron, steel, wrought iron, timber, and concrete in tension, compression, and shear, and the determination of the elastic limits, ultimate strengths, and coefficients of elasticity of these materials. *One period a week; two hours. Simultaneous with 45-1.*

First term. One term hour.

ASSISTANT PROFESSOR SMITH

45-21. Mechanics. A course in the fundamental principles of general mechanics with numerous applications to engineering problems. Statics, motion, dynamics, work and energy, and friction. *Three periods a week; Preparation, 29-21 and 29-22.*

Second Term. Three term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

47 STRUCTURAL ENGINEERING

47-1 Roofs and Bridges. A study of the fundamental principles of Structural Engineering. It includes the theory of algebraic and graphical stress analysis for statically determinate structures, including roofs, bridges, towers, etc., and the design of structural members and details. *Three periods a week; lectures and recitations, with problems. Preparation, 45-2.*

First term. Three term hours.

PROFESSOR ROCKWELL

47-2 Theory of Structures. An advanced course in the theory and design of structures. The method of influence lines is used to a considerable extent in addition to the usual algebraic methods. *Three periods a week; lectures and recitations, with problems. Preparation, 47-1 and 45-3.*

Second term. Three term hours.

PROFESSOR ROCKWELL

47-3 Structural Design. An introductory course in the design of framed structures. It consists of (a) the critical examination of, and report on, some existing structure and (b) the design and detail drawings of a plate girder bridge, and a steel roof truss. *Three periods a week; three hours each. Simultaneous with 45-2.*

Second term. Three term hours.

ASSISTANT PROFESSOR SMITH

47-7 Bridge Design. A course in the design of riveted and pin connected steel bridges. It consists of (a) one complete design of a typical bridge, including a critical study of the important details, carried on under the guidance of the instructor, and then (b) each student is given a different set of data from which he is required to make an independent design and general drawing. *Three periods a week; three hours each. Preparation, 47-3. Simultaneous with 47-1.*

First term. Three term hours.

ASSISTANT PROFESSOR SMITH

47-8 Structural Design. The design of masonry and reinforced concrete structures. *Two periods a week; three hours each. Preparation, 45-3.*

Second term. Two term hours.

PROFESSOR ROCKWELL

47-95 Structural Topics and Reports. Reports by each student on assigned reading in engineering literature, and on the stability and safety of structures, based on a personal examination by the student. The presentation is by lecture, but a written copy of each report must be left

with the department. *Two periods a week; one hour each. Preparation, credit in required work of the Junior year.*

First term. Two term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

47-99 Structural Engineering Thesis. A single topic is developed by extended research, design, or experimentation.

Second term. Three to five term hours.

PROFESSOR ROCKWELL and ASSISTANT PROFESSOR SMITH

51 MECHANICAL ENGINEERING

51-1 Steam Engine. This course deals with the generation of steam and its use in the steam engine. It comprises a study of modern types of boilers and their auxiliary apparatus, simple and compound engines, both condensing and non-condensing; a discussion of the elementary principles of thermodynamics and of the use of the indicator in steam engine practice. Some attention is given to the production of gas for power purposes and its use in the gas engine. *Three periods a week; one hour each. Preparation, 21-13, and 31-1.*

First term. Three term hours.

PROFESSOR CHASE

51-3 Engineering Thermodynamics. This course is devoted to the thermodynamics of the steam engine and other heat engines, and includes a study of the properties of steam, gas and air as used in steam engines, turbines, gas engines, air compressors and blowers; also the working fluids and saturated vapors used in refrigeration. The object of the course is to teach the principles, and their application to practical problems. *Three periods a week; one hour each. Preparation, 29-4 and 51-1.*

Second term. Three term hours.

PROFESSOR CHASE

51-7 Engine Design. The design of the steam turbine, steam engine and gas engine, involving the strength and proportion of parts and including the layout of the valve gear of high speed engines, the Corliss gear and locomotive valve gears. *Three periods a week; two hours each. Preparation, 51-3, and simultaneous with 51-15.*

First term. Three term hours.

PROFESSOR CHASE

51-8 Power Plant Design. A study of steam power plant equipment, including the selection of boilers and engines; pumps, heaters, condensers; arrangement of piping; chimneys, mechanical draft; mechanical stoking, coal handling. Boiler design, including calculations for one type of boiler. *Three periods a week; two hours each. Preparation, 51-7.*

Second term. Three term hours.

PROFESSOR CHASE

51-15 Dynamics of Machinery. A graphical and analytical consideration of the transmission of energy in machines and power transmission. The construction of inertia curves and crank effort diagrams applied to the solution of problems relating to fluctuations in speed, flywheels, balancing of moving parts and regulation by governors. *Three periods a week ; one hour each. Preparation, 21-13 and 45-2.*

First term. Three term hours.

PROFESSOR CHASE

51-18 Machine Design. An application of the principles of mechanism and mechanics to the solution of definite problems in the design of representative types of machine. A systematic training of the judgment is an important part of this course. *Three periods a week ; three hours each. Preparation, 21-8, 21-13 and 45-2.*

First and second terms. Six term hours.

PROFESSOR ANTHONY and MR. MACNAUGHTON

51-21 Mechanical Engineering Laboratory. Efficiency of simple machines ; screw threads ; hoists, simple, duplex, triplex ; transmission of power by belts. The determination of the clearance of engines ; valve setting on plain slide valve, riding cutoff, and Corliss engines. Gage testing ; the adjustment and use of indicators ; testing indicator springs ; the use of several types of steam calorimeters ; injector test ; flow of steam through orifices. The results of all laboratory work are submitted in the form of carefully written reports. *Two periods a week ; three hours each. Preparation, 51-1.*

Second term. Two term hours.

MR. MACNAUGHTON

51-26 Mechanical Engineering Laboratory. Steam engines, pumps and auxiliary apparatus. Tests on riding cut-off shaft governor and Corliss engines ; a 16x8½x9 duplex steam pump ; measurement of water by weir, nozzle and meter ; condenser tests ; analysis of flue gases. Internal combustion engines. Tests on a 10 H.P. 4 cycle gas engine, 11 H.P. 2 cylinder, 2 cycle gasolene engine, automobile engines and marine type engines, including instruction and practice in their operation. *Three periods a week ; three hours each. Preparation, 51-3 and 51-21.*

First term. Three term hours.

PROFESSOR CHASE, MR. ADAMS and MR. MACNAUGHTON

51-28 Mechanical Engineering Laboratory. Tests on a horizontal return tubular boiler ; determination of the velocity of steam through ports ; coefficients of friction with different oils and friction on different types of bearings ; test on a 35-inch exhaust fan ; tests on a steam turbine and on an air compressor ; test at a 2000 K.W. power station, and other tests which may be arranged. *Three periods a week ; three hours each. Preparation 51-26.*

Second term. Three term hours.

PROFESSOR CHASE and MR. MACNAUGHTON

51-95 Mechanical Engineering Topics. A course of lectures by students. Each member of the course chooses three topics from the proceedings of the American Society of Mechanical Engineers. The subjects are presented to the class in the form of lectures, followed by discussion and criticism. *Two periods a week. Preparation, Junior Mechanical Engineering courses.*

Second term. Two term hours. PROFESSORS ANTHONY and CHASE

51-99 Mechanical Engineering Thesis. An essay based on extended personal research, design, or experimentation. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSORS ANTHONY AND CHASE

54 GEOLOGY

54-1 Physical Geology and Geography. Lectures, recitations, and field work. Mainly for those intending to teach. *Three periods a week; one hour each; and seven half-day excursions.*

Second term. Three term hours.

PROFESSOR LANE

54-5 Physical Geology.

First term. Three term hours.

PROFESSOR LANE

54-23. Economic Geology.

Second term. One term hour.

PROFESSOR LANE

54-24. Historical Geology.

Second term. Two term hours.

PROFESSOR LANE

61 ELECTRICAL ENGINEERING

61-3 Dynamo Electric Machinery. An elementary course dealing with the fundamental principles of dynamo electric machinery and their application in the construction and operation of generators and motors. Some attention is also given to storage batteries, arc and incandescent lamps and systems of direct-current distribution. *Three periods a week; one hour each. Preparation, 31-2.*

First term. Three term hours.

ASSISTANT PROFESSOR MUNRO

61-5 Alternating Current Machinery. A course treating of the theory, construction, and operation of synchronous machinery. *Three periods a week; one hour each. Preparation, 61-3.*

Second term. Three term hours.

ASSISTANT PROFESSOR MUNRO

61-8 Electrical Laboratory. Electrical measurements and testing, including, in addition to the more common measurements, calibration of instruments, study of arc and incandescent lamps, and direct current dynamos. *Three periods a week; three hours each. Preparation, 61-3.*

Second term. Three term hours.

ASSISTANT PROFESSORS ROLLINS and MUNRO

61-12 Dynamo Laboratory. Alternating current testing. *Three periods a week; three hours each. Preparation, 61-5.*

First term. Three term hours.

ASSISTANT PROFESSORS ROLLINS and MUNRO

61-14 Electricity. Theory of alternating currents and of alternating current machinery. *Three periods a week; one hour each.*

First and second term. Six term hours.

PROFESSOR HOOPER

61-15 Electrical Engineering. A course dealing with the production, transmission, distribution, and utilization of electrical power. *Three recitations a week, with solution of assigned problems. Preparation, 61-5.*

First term. Three term hours.

ASSISTANT PROFESSOR ROLLINS

61-16 Electrical Engineering. A continuation of 61-15. *Three periods a week; one hour each. Preparation, 61-15.*

Second term. Three term hours.

PROFESSOR HOOPER

61-17 Telephone and Telegraph. A course on principles and operation of telephone and telegraph systems. *Three periods a week. Preparation, 31-2 and 61-3.*

First term. Three term hours.

ASSISTANT PROFESSOR ROLLINS

61-23 Dynamo Design. A course dealing with the application of the laws of electricity and magnetism to the calculations of electrical apparatus. *Three periods a week; two hours each. Preparation, 61-3 and 61-5.*

First term. Three term hours.

ASSISTANT PROFESSOR MUNRO

61-96 Electrical Topics. Lectures by students on electrical subjects, followed by discussion and criticism. *Three periods a week. Preparation, 61-15.*

Second term. Two term hours.

ASSISTANT PROFESSOR ROLLINS

61-99 Thesis. An essay based on some construction, design, or investigation. The head of the department has authority to substitute another engineering subject for the thesis.

Second term. Three to five term hours.

PROFESSOR HOOPER, ASSISTANT PROFESSORS ROLLINS and MUNRO

64 MINERALOGY

64-1 Mineralogy and Lithology. *Two recitations and four hours laboratory work a week. Preparation, 35-1.*

First term. Three term hours.

PROFESSOR LANE

64-1 Mineralogy alone is of use to civil and structural engineers, but those who are looking to mining or chemical engineering should also take 64-2.

[64-2 Crystallography and Optical Mineralogy. *Two lectures and four hours laboratory work a week. Preparation, 64-1.*

Second term. Three term hours.

PROFESSOR LANE]

71 GENERAL ENGINEERING

71-1 Elementary Power Engineering. An introductory course designed to give a knowledge of the more important apparatus, methods and terms used in the generation and distribution of power. *Two hours a week.*

Second term. Two term hours.

PROFESSORS HOOPER, CHASE AND ASSISTANT PROFESSOR ROLLINS.

81 POLITICAL ECONOMY

81-2 Elements of Economics. Designed especially for students of engineering; aims at a comprehensive study of the elements of economics, with special reference to present day economic and social problems. Text book (Taussig, Principles of Economics), lectures, tests. *Three recitations a week.*

First and second terms. Six term hours.

PROFESSOR METCALF

81-5 Engineering Economics. Designed primarily to study the financial, legal, and operating elements of industrial organizations; the elements of appraisals and valuations; the study and use of the terms, amortization, depreciation, etc. This course is open to students in the Electrical, Mechanical and Chemical courses. Text books: Engineering Economics by Fish; Efficient Cost Keeping. *Three hours a week; lectures, tests, problems and reports.*

First term, three term hours.

ASSISTANT PROFESSOR CONNER

THE BROMFIELD-PEARSON SCHOOL

HERMON CAREY BUMPUS, Ph.D., Sc.D., LL.D., President

GARDNER C. ANTHONY, A.M., Sc.D., Dean

The Bromfield-Pearson School

The Bromfield-Pearson School is intended to meet the wants of young men whose preparation for an Engineering course may be partially deficient in one or more of the required branches, but whose practice and experience in the applied part of Engineering may qualify them to pursue college work while making up these deficiencies. By this means an engineering education is made possible to those who may have been deprived of the opportunities for obtaining the necessary preparation, or who may have allowed considerable time to elapse between the high school and the college course. A mature mind, industrious habits, and appreciation of the value of an engineering education are essential.

ADMISSION REQUIREMENTS

Students intending to join the School must obtain from the Dean an application blank, which they are required to fill out and return. On receipt of this statement the Dean will give the conditions of entrance and the program of studies.

No student will be admitted to the School for more than one year.

Students admitted to college classes will be required to obtain a somewhat higher per cent. than the minimum requirement for engineering students.

On the satisfactory completion of one year of work students will be given a certificate of admission to the College. If they have maintained an approved grade in subjects required for the degree they will receive due credit.

The President and the Dean have final authority concerning admission, promotion, and discipline.

For other information address GARDNER C. ANTHONY, Dean of the Bromfield-Pearson School, Tufts College, Mass.

THE CRANE THEOLOGICAL SCHOOL

LEE SULLIVAN MCCOLLESTER, S.T.D., Dean

Standing Committees

COMMITTEE ON CURRICULUM: Dean McCollester, *Chairman*; Professors Tousey, Cushman and Skinner.

COMMITTEE ON PROMOTIONS: Dean McCollester, *Chairman*; Professors Tousey and Skinner.

Faculty of the Crane Theological School

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

LEE S. MCCOLLESTER, S.T.D., DEAN

Packard Professor of Christian Theology

CHARLES H. LEONARD, A.M., S.T.D., LL.D., DEAN, EMERITUS

Goddard Professor of Homiletics and Pastoral Theology

WILLIAM H. REED, A.M., SECRETARY †

GEORGE M. HARMON, A.M., S.T.D.

Professor of Biblical Theology, Emeritus

WILLIAM G. TOUSEY, A.M., S.T.D.

Professor of Ethics and the Philosophy of Theism

HENRY I. CUSHMAN, A.M., D.D.

Professor of Homiletics

HINCKLEY G. MITCHELL, D.D.

Professor of Hebrew and Old Testament Exegesis

CLARENCE R. SKINNER, A.M.

Woodbridge Professor of Applied Christianity

L. ALONZO BUTTERFIELD, PH.D.

Instructor in Oratory

Students in the Crane Theological School are also admitted to classes in the School of Liberal Arts.

NON-RESIDENT LECTURERS

FREDERICK A. BISBEE, D.D.

JAMES H. HOLDEN, A.M.

HAROLD MARSHALL

JOSEPH K. MASON, D.D.

FREDERIC W. PERKINS, S.T.D.

LEVI M. POWERS, S.T.D.

CLARENCE E. RICE, S.T.D.

WILLARD C. SELLECK, D.D.

† *Ex officio*, as Secretary of the Faculty of Arts and Sciences.

The Crane Theological School

The Relation of the School to Tufts College

In 1906 the name of the Divinity School was changed to the Crane Theological School, in recognition of a gift of one hundred thousand dollars from the estate of the late Thomas Crane of New York, whose son, Albert Crane, '63, thus carried out the expressed purpose of his father.

The Crane Theological School is one of the coördinate departments of Tufts College. Students of the School are members of the College, enjoying its privileges and subject to its regulations.

Outline of Courses

Recognizing that peculiar difficulties and radically new demands confront the Christian minister to-day, Crane Theological School frankly seeks to adapt its discipline to the new conditions. This, quite naturally, has led to the adoption of a distinct and somewhat distinctive ideal or aim. While rigorously faithful to the fundamentals of a liberal culture, and alert to discover and foster special interests and gifts, the primary aim is *practical* rather than *academic*—to turn out, not men distinguished for varied and curious learning, but men thoroughly equipped for moral and religious leadership.

Three courses are presented: one of three years, for students who have already received regular college degrees, leading to the degree of S.T.B.; one of five years, for students who have no degree but have had, or received at Tufts College, the essentials of the College course together with the theological course, leading to the degree of S.T.B.; and one of six years, combining the College and Theological Courses, leading to the two degrees of A.B. and S.T.B.

Students may also enter for special courses.

The number of hours required for the different degrees, and the arrangement of the work depend on the degree or degrees sought. The requirement for the combined course, leading to the two degrees of A.B. and S.T.B., is one hundred eighty-two hours. The subjects are taken from the following list.

Foreign Languages. Hebrew, Greek, Latin, German, French.

Science. Mathematics, Physics, Chemistry, Biology, Geology.

History. Ancient and Modern; Civil and Religious; Apostolic Church; Evolution of Religions.

Bible. Old Testament and New Testament Literature; Theology; Ethics; History; Criticism.

Philosophy. Logic; Ethics; Psychology; Theism: Systematic Theology; Types of Christian Faith.

Sociology. Economics; Applied Christianity; Missions; Social Laboratory; Jesus and Modern Society.

English. Rhetoric; Oratory; Literature; Homiletics; History of Preaching; Liturgics.

Religious Education. Religious Psychology; Religious Pedagogy; Sunday Schools; Pastoral Methods; Church Unity; Scientific Management.

Physical Education.

A student taking the six year course must complete the Foreign Languages and Science required for the Bachelor's Degree in the School of Liberal Arts and in addition he must take eighteen hours of History, twenty-one hours of Bible, twenty-one hours of Sociology, twenty-four hours of Philosophy, and thirty-six hours of English.

Description of Studies

58 OLD TESTAMENT

PROFESSOR MITCHELL

58-3. The Hebrew Language. First Semester: the elements of Hebrew etymology, reading and writing in Hebrew. Second Semester: readings from the books of Judges and Samuel, with notes and references on Hebrew syntax.

58-6. The Narrative Literature. A comparative study of the historical books to determine their relative value from the literary, historical, and religious standpoint. *Two hours*

58-7. The Prophetic Literature. An examination of selections from the works of the principal prophets, to ascertain the literary and doctrinal peculiarities of each, and its place in the development of Hebrew prophecy. *Two hours.*

58-8. The Didactic Literature. The books of Job, Proverbs, and Ecclesiastes, and their significance in the history of Hebrew thought. *Two hours.*

58-9. The Lyric Literature. Early songs ; select psalms of devotional or theological importance ; the Song of Solomon and its structure and meaning. *Two hours.*

58-10. The Ethics of the Old Testament. A survey of the development of moral ideas among the Hebrews, with lectures and papers. *One hour.*

58-11. Introduction to the Old Testament. An inquiry into the age, and structure, authorship, and history of the several books, with lectures papers. *One hour.*

68 NEW TESTAMENT

PROFESSORS MITCHELL, SKINNER, AND MCCOLLESTER,
AND DR. WYATT

68-2. New Testament Criticism: Textual and Historical.

68-3. New Testament Exegesis and Theology: Doctrines of Jesus and Saul.

68-4. New Testament Greek.

68-11. Life of Jesus: Beginnings of Christian Church.

56 HISTORY OF RELIGIONS

PROFESSOR SKINNER

56-4. Origin and Development of Primitive Religions ; Ethnic Religions ; Comparative Religions.

56-5. History of the Christian Church to the Protestant Reformation : Development of Theology ; Holy Roman Empire ; Scholasticism.

56-6. History of the Christian Church from the Reformation to the present time : The Reformation in Germany, Hungary, England, France, etc ; Puritanism ; American Sects ; Modern Religious Tendencies ; Liberal Christianity.

56-7. Special Investigations. A research course into the Religious Literature ; Archæology ; Architecture. *Two hours.*

16 ETHICS AND PHILOSOPHY OF THEISM

PROFESSORS TOUSEY and SCHMIDT

The details of these courses are to be found in the courses offered by the School of Liberal Arts.

16-1. Introduction to Philosophy.

16-3. Logic.

16-55. Psychology.

16-15. Theism.

86 THEOLOGY

PROFESSOR MCCOLLESTER

86-1. Historical Introductions to the general subject of Theology.

86-2. Systematic Theology: Modern Conclusions.

86-3. Philosophy and History of Universalism: Unitarianism; Congregationalism; Liberal Leaders. Channing, Ferrer, Emerson. *Two hours.*

76 APPLIED CHRISTIANITY

PROFESSOR SKINNER

76-1. A course in practical Sunday School teaching. The student is acquainted with the materials and curricula of the graded system and uses them in actual teaching under the criticism and supervision of the instructor. *One hour.*

76-5. Religious Pedagogy. Church, school methods, organization, curriculum, management, and efficiency are studied theoretically and are given practical demonstration. *Two hours.*

76-6. Applied Religious Psychology. Various phases of normal and abnormal experience are studied and types of Christian character are analyzed. The validity of religious experience is emphasized.

76-7. Social Psychology. A study of the self as a social product, an analysis of group and race characteristics, and of social conduct.

76-8. Principles and methods of Social Service, and of practical community leadership. The most important phases of social development are studied in their relation to economic and spiritual forces. Various welfare institutions are visited; brief comments are written upon each; students perform specific service under direction. *Two hours class work, one hour field work.*

76-10. Home and Foreign Missions. The aim is to make the student sympathetic with the motives and movements of missions and cognizant of methods. *One hour.*

76-11. Seminar in Country Church Problems. The country church and its ministry, in relation to rural development. *One hour.*

76-12. Laboratory Social Work. A course in field investigation with an approved social agency, such as Settlements, Charity Organizations, etc. Assigned reading. Conferences with instructor. *Two hours.*

76-13. Race Problems. The history of immigration and an examination of its effects at home and abroad. Discussion of plans for Americanization.

82 HOMILETICS AND PASTORAL CARE

PROFESSORS CUSHMAN and MCCOLLESTER

82-1. Introductory Course in Homiletics. (a) Lectures and recitations on the basis of text book, Hoyt's "The Work of Preaching." *One hour.* (F) (b) Sermon Making. Short extempore and written sermons on texts or topics chosen by students or assigned by the instructor. *One hour.* (c) Cultural study of the words and life of Christ as fundamental preparation for preaching. *One hour.* (d) Conferences.

82-2. Advanced course in Homiletics. (a) Lectures and recitations on the basis of text book, Hoyt's "The Preacher." *One hour.* (F) (b) The art of preaching. Practice in the making of sermons, and in their delivery in class. *One hour.* (c) Pastoral Care. Studies in the conduct of Public Worship, and of special services on the basis of Dean Leonard's Book of Prayer. Baptism, Confirmation, the Holy Communion, Marriages and Funerals will be considered; also, Parish Calls and other pastoral functions with Gladden's "The Christian Pastor" as a book of reference. *One hour.* (s) (d) Conferences.

THE PROFESSION OF THE MINISTRY

Lectures are given by clergymen and educators at frequent intervals on ministerial habits, scientific management of parishes, case work, reading courses, church architecture, Universalist polity and interdenominational relations.

EXPENSES AND PECUNIARY AID

The charge for instruction in the Theological School is one hundred dollars per annum. Students in theology are given free rooms in Paige Hall.

A registration fee is required of all students entering Tufts College for the first time.

The following scholarships are assigned to theological students. The income of the funds shown is available.

THE GREENWOOD SCHOLARSHIP. \$1,000

Founded in 1877 by Mrs. Eliza M. Greenwood, of Malden. Given to that member of the advanced class in Homiletics who, maintaining a high standard of work as a student, has made in all the work in Homiletics and Oratory the most satisfactory progress.

THE DOCKSTADER SCHOLARSHIPS. \$10,000

Founded in 1890 by George A. Dockstader, of New York. Appropriated to the aid of needy and worthy students.

THE HENRY L. BALLOU SCHOLARSHIP. \$1,000

Founded in 1897 by Susan Ballou, of Woonsocket, R. I.

THE BRADLEE SCHOLARSHIPS. (2) \$2,000

Founded in 1897 by Caleb D. Bradlee, D.D., of Brookline.

THE GOLDTHWAITE SCHOLARSHIPS. (2) \$2,000

Founded in 1897 by Willard Goldthwaite, of Salem.

THE HOLT SCHOLARSHIP. \$1,000

Founded in 1897 by Miss Celia Holt, of Stafford, Conn.

THE WHITTEN SCHOLARSHIP. \$1,000

Founded in 1897 by Mrs. Maria F. Whitten, of Cambridge.

THE SARAH ELIZABETH PERKINS SCHOLARSHIP. \$1,000

Founded in 1898 by James D. Perkins, of Brooklyn, N. Y.

THE LUCIUS R. PAIGE SCHOLARSHIPS. (2) \$2,000

Founded in 1902 by Lucius R. Paige, D.D., of Cambridge, Mass.

THE ANN M. PAIGE SCHOLARSHIPS. (2) \$2,000

Founded in 1903 by Ann M. Paige, wife of Rev. Lucius R. Paige, of Cambridge, Mass.

THE JOHN MURRAY SPRAGUE AND ELIZA FLETCHER SPRAGUE
SCHOLARSHIP. \$2,000

Founded in 1908 by John M. Sprague. Appropriated to the aid of needy and deserving students, preference being given to any student, otherwise eligible, who is a direct descendant of the donor's father, John Sprague.

THE CATHERINE CONANT SCHOLARSHIPS. (4) \$5,000
Founded in 1910 by Mrs. Catherine Conant, of Newark,
N. J.

The General Convention of Universalists aids students by free scholarships, not exceeding one hundred and twenty-five dollars a year to any one student, subject always to the recommendation of the Faculty of the Theological School.

Students who are in the regular course are permitted to preach, under the direction of the Faculty, during the year-and-a-half preceding their graduation.

THE GRADUATE SCHOOL

CHARLES ERNEST FAY, A.M., LITT.D., Dean

Standing Committees

EXECUTIVE: President Bumpus, *Chairman*; Dean Fay and Professor Denison.

REQUIREMENTS FOR DEGREES: Dean Fay, *Chairman*; Professors Metcalf and Durkee.

Faculty of the Graduate School

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., PRESIDENT

CHARLES E. FAY, A.M., LITT.D., DEAN

Wade Professor of Modern Languages

WILLIAM H. REED, A.M., SECRETARY

Professors

Arranged in order of their service at Tufts College

WILLIAM L. HOOPER, AM., PH.D., LL.D.

Electrical Engineering

FRANK W. DURKEE, A.M.

Chemistry

LEO R. LEWIS, A.M.

History and Theory of Music

FRANK G. WREN, A.M.

Walker Professor of Mathematics

WILLIAM K. DENISON, A.M.

Latin Language and Literature

HENRY C. METCALF, PH.D.

Jackson Professor of Political Science

EDWIN C. BOLLES, PH.D., D.D., LL.D.

Dickson Professor of English and American History

WILLIAM R. RANSOM, A.M.

Mathematics

ARTHUR I. ANDREWS, PH.D.

History and Public Law

KARL SCHMIDT, PH.D.

Philosophy and Education

LEE S. MCCOLLESTER, S.T.D.

Packard Professor of Christian Theology

HERBERT V. NEAL, PH.D.

Zoology

CHARLES H. GRAY, PH.D.

English

The Graduate School

The advanced elective work offered to undergraduates in any department of the Associated Schools is open to graduate students, and will count for the Master's degree. Graduate Courses are arranged with the instructor in whose department the work is to be done, and must be approved by the Faculty of the Graduate School.

DEGREES

The degrees offered are Master of Arts and Master of Science. Departments open to candidates are:

ENGLISH	POLITICAL SCIENCE
MODERN LANGUAGES	MATHEMATICS
ANCIENT LANGUAGES	ELECTRICITY
PHILOSOPHY AND EDUCATION	BIOLOGY
HISTORY AND PUBLIC LAW	CHEMISTRY

THE DEGREE OF MASTER OF ARTS will be conferred upon graduates of Tufts College who have received the degree of Bachelor of Arts, or upon graduates of other colleges whose course of study has been equivalent to that required at Tufts College for the degree of Bachelor of Arts, upon the following conditions :

1. They must have completed an approved course of advanced study, including the equivalent of at least thirty term hours, in one or at the most two departments. If two departments are chosen they must be allied.
2. This course must be pursued during a residence of not less than one year. In the case of graduates of Tufts College, the condition of residence may be waived by special permission, but the degree cannot then be taken with less than two years of graduate study.
3. The candidate must prepare a thesis in the form prescribed by the regulations, and must pass a satisfactory examination under the supervision of a board of three examiners, appointed by the Graduate Faculty at its stated meeting on the Wednesday following the last Monday in May. The thesis must be presented at least one month before Commencement.
4. No subject counted for the bachelor's degree will be counted for the master's degree.

5. A candidate should make a written application to the Dean of the Graduate School prior to September 20 of the college year in which the degree is to be conferred. If the degree is not taken after the first year of study a second notice must be given at least three months prior to the Commencement at which he plans to receive the degree. The application must specify the department or departments in which it is proposed to pursue work for a degree.

THE DEGREE OF MASTER OF SCIENCE will be conferred upon Bachelors of Science who have pursued advanced study at Tufts College for one year, under the conditions required of candidates for the degree of Master of Arts; or upon Bachelors of Science of Tufts College who shall pursue graduate study *in absentia* for at least two years, or who, as an engineer, shall have continued his scientific researches with marked ability for at least three years, holding in the meantime a high position of responsibility. A thesis will be required.

EXPENSES

The tuition fee for the whole course for the degree of Master of Arts, or Master of Science, is *one hundred dollars*, of which one half is payable in advance. A registration fee of five dollars is required of all students registering at Tufts College for the first time.

SCHOLARSHIPS

In each department offering graduate work the Trustees of Tufts College have established one scholarship which gives free tuition. The incumbent is expected to devote himself exclusively to advanced study.

These scholarships are awarded by the Graduate Faculty, on recommendation of the heads of departments concerned, at or before the beginning of the year in which they are to be conferred. Applications must be made to the Dean of the Graduate School.

ONE-YEAR PRE-MEDICAL COURSE

FRANK GEORGE WREN, A.M., Dean

Standing Committees

CURRICULUM : Dean Wren, *Chairman* ; Professors Andrews, Bates, Lambert, Marvin, and Mr. Pope.

PROMOTIONS : Dean Wren, *Chairman* ; Professors Andrews, Lambert, Seavey, and Mr. Pope.

Calendar of the Pre-Medical Course

1916

- JAN. 2. Christmas recess ends Sunday evening.
FEB. 22. Washington's Birthday. Exercises are suspended.
APRIL 12. Spring recess begins, Wednesday evening.
APRIL 19. Spring recess ends, Wednesday evening.
MAY 30. Memorial Day. Exercises are suspended.
JUNE 10, 12, 13, 14, 15. Final examinations.
JUNE 19-24. Entrance examinations conducted by the College Entrance Examination Board. Application blanks may be obtained from the Secretary of the Board, P.O. Station H, New York, N. Y.

Summer Vacation, Thirteen Weeks

- SEPT. 5. Registration begins.
SEPT. 6. Examinations for the removal of conditions.
SEPT. 14, 15, 16. Fall examinations.
SEPT. 28. Pre-Medical Course begins.
OCT. 12. Columbus Day. Exercises are suspended.
NOV. 30. Thanksgiving Day. Exercises are suspended.
DEC. 20. Christmas recess begins Wednesday evening.

1917

- JAN. 3. Christmas recess ends, Wednesday evening.

Faculty of the One-Year Pre-Medical Course

(The address is Tufts College, Mass., unless otherwise indicated.)

Administrative Officers

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D., . 8 Professors Row,
PRESIDENT

FRANK GEORGE WREN, A.M. 65 Talbot Ave.,
Dean of the Faculty of the School of Liberal Arts

Professors

ALFRED WILLIAM BALCH, PH.G., M.D. . 44 Linden St., Brookline
Chemistry

GEORGE ANDREW BATES, M.Sc., D.M.D. Auburndale
Biology

FRED DAYTON LAMBERT, A.M., PH.D. 120 Curtis St.
Biology

HENRY HOWARD MARVIN, B.S., PH.D. 59 W. Adams St.
Physics

FRANK ELIAS SEAVEY, A.B. 45 Sawyer Ave.
English

Instructors

ROBERT EATON ANDREWS, A.B., M.D. . 1044 Massachusetts Ave.,
Physics Cambridge

HAROUTIOUN HOVANS CHAKMAKJIAN, A.B. . 37 Endicott Ave.,
Chemistry W. Somerville

MYRON JENNISON FILES, A.B. Dean Hall, 6
English

NATHANIEL HOBBS KNIGHT, B.S. 65 Pearson Rd.
Physics

FRANCIS O'MEARA, M.S. 72 Mapleton St., Brighton
Chemistry and Physics

WALTER BORDEN POPE, B.S. 200 Central St., Winter Hill
Chemistry

FRANK WALTER POTE, B.S. 45 Dearborn St., Medford
Physics

SOLOMON HYMAN RUBIN, M.D. . . . 484 Blue Hill Ave., Roxbury
Biology

EDWARD EARLE SWAIN, A.M. Box 3628, Boston
French

GEORG VAN WIEREN So. Framingham
German

Assistants

FREDERICK POTTER FLAGG 20 Floyd St., Waltham
Chemistry

EDGAR FRANK WOOLVERTON . . 416 Huntington Ave., Boston
Biology

For several years so-called medical preparatory courses have been given at the College. These are regular four-year courses leading to the bachelor's degree, and they will be continued, for the Trustees believe that a full college course is the best preparation for those who are to choose the profession of medicine.

There are, however, many students, young men and women, who cannot afford the time or the expense requisite for the attainment of a college degree. The One-Year Pre-Medical Course herein described is designed to meet, in a practical way, the needs of this class, but it should be distinctly understood that the College will not look with favor upon those who comply merely with a minimum of the requirements for admission and yield a low grade of work during the year. The College expects earnestness and proficiency from all its students, and will add to the quantity and quality of the work herein described as it may feel is to the best interests of the student, the School, and the profession.

One-Year Pre-Medical Course

The Association of American Medical Colleges, of which Tufts College Medical School is a member, has voted that students may be admitted to medical schools of "Class A" under the following conditions:

(a) The student must have completed a four-year course in an accredited high school and

(b) He must have taken at least a year of pre-medical work in an accredited college or university. This course must include Physics, Chemistry, Biology and either French or German.

The Trustees of Tufts College have arranged a One-Year Pre-Medical Course in accordance with this action of the Association of American Medical Colleges.

REQUIREMENTS FOR ADMISSION

Admission to the One-Year Pre-Medical Course may be obtained in one of two ways:

(1) *By presenting a diploma and a transcript of record from an accredited high school or academy:*

The transcript of record must show adequate preparation in certain subjects falling in two groups, known respectively as the Required and the Elective Group. In these groups the term "unit" represents a year's study in the specified subjects and is the equivalent of approximately a quarter of a full year's work.

Required Group, 8 Units		Units
English		3
Foreign Language (elementary)		2
History		1
Algebra A1		1
Plane Geometry		1

No subject offered in the Required Group can be counted in the Elective Group.

In addition to the eight units of the Required Group candidates for admission must also present subjects chosen from the following Elective Group equivalent to six and one-half units.

The Elective Group, $6\frac{1}{2}$ Units

Units		Units	
Greek	2 or 3	Freehand Drawing . . .	$\frac{1}{2}$ *
Latin	2, 3, or 4	Shop Work	$\frac{1}{2}$ to 2*
French	2 or 3	Musical Appreciation . .	$\frac{1}{2}$
German	2 or 3	Music (Harmony) . . .	$\frac{1}{2}$
Chemistry	1	Algebra A2	1
Physics	1	Advanced Algebra . . .	$\frac{1}{2}$
Biology	1	Solid Geometry	$\frac{1}{2}$
Botany	1	Trigonometry	$\frac{1}{2}$
Zoology	1	English History	1
Geology or Geography	1	Ancient History	1
Mechanical Drawing .	1*	American History and Civil Government . . .	1

(2) By passing examinations:

Students who desire to satisfy the above requirements may take the examinations either in June or in September, or a part in June and a part in September.

The June examinations, arranged by the College Entrance Examination Board, will be given June 19 to 24, 1916, at Robinson Hall, Tufts College, Mass., and elsewhere, as announced by the Board. All applications for June examinations must be addressed to the Secretary of the College Entrance Examination Board, Post Office Station H, New York, N.Y., and the student intending to take the Board examinations should make his plans known to the Secretary at an early date, if possible prior to May 1, in order to comply with all of the conditions imposed by the Board.

The September examinations are arranged by Tufts College and will be given September 14 to 16, 1916, at Ballou Hall, Tufts College, Mass. On the day of their first examination applicants for the September examinations are required to register at the office of the Registrar at Tufts College and pay an examination fee of \$5.00.

* A total of not more than two units in three subjects.

The schedule of examination dates for September, 1916, is as follows:

- SEPT. 14. Elementary, and Intermediate, French, 9 to 11; Elementary and Intermediate, German, 11 to 1; Elementary and Advanced Greek, Advanced Algebra and Trigonometry, 2 to 5.
- SEPT. 15. Algebra, 9 to 10.30; English, 10.30 to 12.30; Plane Geometry, 2 to 4; Physics, 4 to 5; Drawing, 4 to 6.
- SEPT. 16. Elementary, Intermediate, and Advanced Latin, 9 to 12, Solid Geometry, 9 to 11; Botany, Zoology, Biology, Geology and Economics, 11 to 1; History, 2 to 4; Chemistry, 4 to 5.

The requirements are well-known to the principals of all secondary schools. A detailed statement of the requirements is given in the Appendix.

EXPENSES

A fee of five dollars is payable at the time of registration.

The tuition fee of *one hundred and twenty-five dollars* is payable on the opening day, and unless otherwise arranged must be paid in full before October 1.

If desired, however this amount may be paid in two instalments, in which case, an additional charge of five dollars is made and the fees are then paid as follows:

First payment, *seventy dollars*, payable on or prior to the opening day.

Second payment, *sixty dollars*, payable on or before February 1.

Laboratory supplies and anatomical material is supplied at cost.

APPLICATION AND REGISTRATION

A student who intends to enter the One-Year Pre-Medical Course must fill out and send to Frank G. Wren, Dean, 416 Huntington Avenue, Boston, Mass., the accompanying application blank. Duplicate application blanks will be mailed upon request.

Registration for the session 1916-17 will begin at the Medical School Building, 416 Huntington Avenue, Boston, Massachusetts, on Tuesday, September 5, 1916, at 9 A.M. Registration is conducted at the Medical School Building only.

The course begins on Thursday, September 28, 1916, and continues according to the calendar.

Departments of Instruction

BIOLOGY

This is primarily a laboratory course, the practical work of which is supplemented by lectures, recitations, conferences and examinations. The course begins with a thorough study of a plant, because the structure, habit and physiological processes of a plant are simple, and therefore easily understood. Comparisons are subsequently made between plants and animals.

A study of the protozoa then follows, and the amœba is used for the study of living matter or protoplasm. The hydra and various hydrozoa are studied as examples of primitive multicellular forms, and the earthworm as an example of a typical invertebrate organism.

The vertebrates are introduced by the dogfish, which serves as a primitive type, and is followed by the frog, which is more exhaustively studied, since it illustrates many fundamental biological principles.

Then follows a careful study of the anatomy of the cat. Lastly, comes the dissection of the head of the dogfish. The significance of the primitive brain is indicated, the cranial nerves are dissected and the homologies of the parts of the branchial system are explained.

CHEMISTRY

In the first lectures the history of Chemistry and the development of the science are considered. This is followed by exercises on the non-metals and their compounds with qualitative analysis of the acids. The metals are then taken up, usually in order of occurrence in the periodic system, and the qualitative analysis of the various groups is carried out in the laboratory. Qualitative analysis is taught in connection with the chemistry of the various elements, for the reason that the practical application of the properties of the compounds serves best to fix these properties in the mind of the student.

The more common volumetric processes, as acidimetry and alkalimetry, are taught in sufficient detail to permit of their use in the course in Biological Chemistry in connection with analysis of urine and gastric contents.

Since some knowledge of Organic Chemistry is essential for a proper appreciation of the courses in Biological Chemistry and Pharmacology in the Medical School, the exercises in Organic Chemistry include the important groups of organic substances, hydrocarbons, alcohols, aldehyds, ketones and acids—both of the open and closed chain series. These exercises follow the lectures on carbon and its oxygen compounds as the time permits.

LANGUAGES

The courses in French and German are given in order to enable the student ultimately to acquaint himself with the literature of medicine and to read scientific publications in French and German. Elementary, intermediate and advanced subjects are offered in each department, so that the character of the work may be adapted to the qualifications of the individual student. Recitations are held three times each week in both subjects. Grammatical principles are reviewed and literal translations with a clear understanding of the fundamental meaning of words are insisted upon.

The purpose of the English course is first, to impress on the student the importance of good English; second, to train in exact thinking; third, to develop the power of expression; and fourth, to encourage the habit of reading. The forms of discourse are taken up in weekly lectures, and errors are discussed at monthly conferences held with individual students. Papers written outside the class are required weekly, and papers written in class are required from time to time.

PHYSICS

The science of Physics is offered as a specialized course adapted to the needs of students of medicine. In such a course many points are emphasized which the usual college laboratory would not take up in detail, such, for instance, as

the special study of the flow of liquids as exemplified in the circulation of the blood, the mechanical processes involved in the function of respiration, the study of surface tension, capillarity, wave formation, osmosis, diffusion, and effusion.

The students are expected to acquire familiarity with a polariscope, spectroscope, and other apparatus used in the practice of medicine; and special attention is given to the study of high frequency and sinusoidal currents, the X-ray, and to radial activity in general. Much of the so-called mechanics of solids and higher mathematics involved therein is purposely omitted.

In addition to the special studies outlined above, the more general subjects of sound, heat, light and electricity are covered, and offer to the prospective student of medicine interesting and broadening training.

GRADUATION

Before a certificate of graduation can be given, students must fulfil the following requirements:

They must have paid all fees.

They must have passed all the required examinations, and have performed the required amount of laboratory work.

They must have completed the full course of pre-medical study.

The Faculty must be satisfied of the good moral character of the student.

The College reserves the right to accept and retain students as it may elect. Regulations are subject to change without notice.

Application for Admission
to the
Tufts College One-Year Pre-Medical Course

I hereby apply for enrollment in the Tufts College Pre-Medical Course
Name in full, including middle name.

.....
Date.....

Street and No.

City or Town.....

State

Date of Birth

Place of Birth

Name of Parent or Guardian

Address of Parent or Guardian.....

For certificate as to my moral character consult

.....
(Name)

.....
(Address)

Previous education. (State *Name* of each secondary school and *Number*
of years attended.)

.....
Total years..... Diploma was received: Date.....

I plan to register, in person, at the Medical School Building.

Date:

This application must be accompanied by a certificate of graduation
and a full statement of the applicant's secondary school record. These
documents must be signed by the school principal.

Answer the above questions fully, clearly, and accurately, and forward to

FRANK G. WREN, Dean,
416 Huntington Ave., Boston, Mass.

PART II

THE MEDICAL AND DENTAL SCHOOLS

(Located in Boston)

TUFTS COLLEGE MEDICAL SCHOOL

(Giving the degree of M.D.)

TUFTS COLLEGE DENTAL SCHOOL

(Giving the degree of D.M.D.)

Calendar — 1916

JANUARY							MAY							SEPTEMBER							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
						1		1	2	3	4	5	6						1	2	
2	3	4	5	6	7	8	7	8	9	10	11	12	13	3	4	5	6	7	8	9	
9	10	11	12	13	14	15	14	15	16	17	18	19	20	10	11	12	13	14	15	16	
16	17	18	19	20	21	22	21	22	23	24	25	26	27	17	18	19	20	21	22	23	
23	24	25	26	27	28	29	28	29	30	31				24	25	26	27	28	29	30	
30	31																				
FEBRUARY							JUNE							OCTOBER							
			1	2	3	4	5					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12		4	5	6	7	8	9	10	8	9	10	11	12	13	14
13	14	15	16	17	18	19		11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26		18	19	20	21	22	23	24	22	23	24	25	26	27	28
27	28	29						25	26	27	28	29	30		29	30	31				
MARCH							JULY							NOVEMBER							
				1	2	3	4						1				1	2	3	4	
5	6	7	8	9	10	11		2	3	4	5	6	7	8	5	6	7	8	9	10	11
12	13	14	15	16	17	18		9	10	11	12	13	14	15	12	13	14	15	16	17	18
19	20	21	22	23	24	25		16	17	18	19	20	21	22	19	20	21	22	23	24	25
26	27	28	29	30	31			23	24	25	26	27	28	29	26	27	28	29	30		
								30	31												
APRIL							AUGUST							DECEMBER							
						1			1	2	3	4	5						1	2	
2	3	4	5	6	7	8		6	7	8	9	10	11	12	3	4	5	6	7	8	9
9	10	11	12	13	14	15		13	14	15	16	17	18	19	10	11	12	13	14	15	16
16	17	18	19	20	21	22		20	21	22	23	24	25	26	17	18	19	20	21	22	23
23	24	25	26	27	28	29		27	28	29	30	31			24	25	26	27	28	29	30
30															31						

Calendar of the Medical and Dental Schools

1916

- JAN. 2. Christmas recess ends, Sunday Evening.
FEB. 22. Washington's Birthday, Tuesday. Exercises are suspended.
APRIL 12. Spring Recess begins, Wednesday Evening.
APRIL 19. Spring recess ends, Wednesday Evening.
MAY 30. Memorial Day, Tuesday. Exercises are suspended.
JUNE 10, 12, 13, 14, 15. Final examinations.
JUNE 18. Baccalaureate Sermon, Sunday, 4 P.M.
JUNE 21. Annual Commencement, Wednesday.
JUNE 19-24. Entrance examinations conducted by the College Entrance Examination Board. Application blanks may be obtained from the Secretary of the Board, Hamilton Hall, P.O. Station H, New York, N.Y.

Summer Vacation, Thirteen Weeks

- SEPT. 5. Registration begins.
SEPT. 6. Examinations for Admission to Advanced Standing and for the Removal of Conditions.
SEPT. 14, 15, 16. Fall examinations for admission. These examinations will be given in Ballou Hall, Tufts College, Mass.
SEPT. 21. Opening Day. College year begins, Thursday.
SEPT. 28. Pre-Medical Course begins.
OCT. 12. Columbus Day. Exercises are suspended.
NOV. 30. Thanksgiving Day. Exercises are suspended.
DEC. 20. Christmas Recess begins, Wednesday Evening.

1917

- JAN. 3. Christmas recess ends, Wednesday Evening.

Officers of Instruction and Government of The Medical and Dental Schools

The post-office address is Boston, Mass., unless otherwise indicated.

Administrative Officers

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D.

PRESIDENT

8 Professors Row, Tufts College, Mass.

CHARLES FAIRBANK PAINTER, A.B., M.D.

Dean

522 Commonwealth Ave.

FRANK GEORGE WHEATLEY, A.M., M.D. 174 Adams St.,

Vice-Dean

N. Abington

FRANK EUGENE HASKINS, PH.G., M.D. 204 Huntington Ave.

Secretary of the Faculty

Professors Emeriti

FREDERIC MELANCTHON BRIGGS, A.B., M.D.

Surgery

536 Commonwealth Ave.

HENRY BECKLES CHANDLER, C.M., M.D. 34½ Beacon St.

Ophthalmology

ERNEST WATSON CUSHING, A.B., M.D., LL.D. 168 Newbury St.

Abdominal Surgery and Gynecology

JOHN LEWIS HILDRETH, A.M., M.D., LL.D. 55 Fletcher St.,

Clinical Medicine

Winchester

MORTON PRINCE, A.B., M.D., LL.D. 458 Beacon St.

Neurology

GEORGE HAMLIN WASHBURN, A.B., M.D. 377 Marlborough St.

Obstetrics

HAROLD WILLIAMS, A.B., M.D., LL.D. 528 Beacon St.

Theory and Practice of Medicine

Professors

JOHN LINCOLN AMES, A.B., M.D. 87 Chestnut St.

Theory and Practice of Medicine

ALFRED WILLIAM BALCH, PH.G., M.D. 44 Linden St., Brookline

Biological Chemistry and Toxicology

GEORGE ANDREW BATES, M.S., D.M.D. Auburndale

Histology

- WILLIAM ELISHA CHENERY, A.B., M.D. . . 222 Huntington Ave.
Laryngology
- WILLIAM MERRITT CONANT, A.B., M.D. . 486 Commonwealth Ave.
Clinical Surgery
- FRANK ALEXANDER DELABARRE, A.B., D.D.S., M.D.,
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- ELWOOD TRACY EASTON, M.D. 209 Newbury St.
Ophthalmology
- WILLIAM ROBIE PATTEN EMERSON, A.B., M.D. 657 Boylston St.
Children's Diseases
- LEO VICTOR FRIEDMAN, A.B., M.D. 425 Marlborough St.
Obstetrics
- ERVIN ARTHUR JOHNSON, D.M.D. 541 Boylston St.
Clinical Dentistry
- GEORGE WARTON KAAH, M.D. 419 Boylston St.
Clinical Gynecology
- FRANCIS JOSEPH KEANY, A.M., M.D. 73 Marlborough St.
Dermatology
- JAMES KELLIE, D.D.S. 419 Boylston St.
Crown and Bridge Work
- EDWARD BINNEY LANE, A.B., M.D. 419 Boylston St.
Mental Diseases
- TIMOTHY LEARY, A.M., M.D. . . . 44 Burroughs St., Jamaica Plain
Pathology, Bacteriology and Medical Jurisprudence
- EDWARD NORTON LIBBY, A.B., M.D. 638 Beacon St.
Practice of Medicine
- EDWARD OSGOOD OTIS, A.B., M.D. 381 Beacon St.
Pulmonary Diseases and Climatology
- CHARLES FAIRBANK PAINTER, A.B., M.D. 522 Commonwealth Ave.
Orthopedic Surgery
- CHARLES ALFRED PITKIN, A.M., Ph.D. South Braintree
Chemistry
- EDWARD MARWICK PLUMMER, M.D. . 5 Adams St., Charlestown
Otology
- WILLIAM RICE, D.M.D. 149 Newbury St.
Operative Dentistry

BYRON HOWARD STROUT, D.D.S	Taunton
<i>Operative Technics</i>	
WALTER EDWARD SULLIVAN, Ph.D.	11 Burnham St., W. Somerville
<i>Anatomy</i>	
JOHN JENKS THOMAS, A.M., M.D.	88 Bay State Rd.
<i>Neurology</i>	
FRANK GEORGE WHEATLEY, A.M., M.D.	174 Adams St., N. Abington
<i>Pharmacology</i>	
CHARLES MELVILLE WHITNEY, M.D.	386 Commonwealth Ave.
<i>Genito-Urinary Diseases</i>	

Associate Professors

GEORGE COOK AINSWORTH, D.D.S., D.M.D.	220 Clarendon St.
<i>Clinical Dentistry</i>	
ALLEN GREENWOOD, M.D.	101 Newbury St.
<i>Ophthalmology</i>	
STEPHEN RUSHMORE, A.B., M.D.	520 Beacon St.
<i>Gynecology</i>	

Assistant Professors

ARTHUR EVERETT AUSTIN, A.B., M.D.	110 Marlborough St.
<i>Clinical Medicine, Lecturer in Gastro-Intestinal Diseases</i>	
ELMER WALTER BARRON, A.B., M.D.	300 Pleasant St., Malden
<i>Children's Diseases</i>	
ARTHUR LAMBERT CHUTE, M.D.	350 Marlborough St.
<i>Genito-Urinary Surgery</i>	
ARTHUR WILLARD FAIRBANKS, M.D.	591 Beacon St.
<i>Neurology</i>	
CURTIS WILLIAM FARRINGTON, D.M.D.	246 Huntington Ave.
<i>Clinical Dentistry</i>	
WALTER EMERSON FARRIS, D.D.S.	711 Boylston St.
<i>Prosthetic Dentistry</i>	
ARIAL WELLINGTON GEORGE M.D.	259 Beacon St.
<i>Roentgenology</i>	
FRANK EUGENE HASKINS, Ph.G., M.D.	204 Huntington Ave.
<i>Pharmacology</i>	
EDGAR MILLER HOLMES, M.D.	531 Beacon St.
<i>Otology</i>	

- WILLIAM PRESTON HOUSTON D.M.D. . . 416 Huntington Ave.
Clinical Dentistry
- ARTHUR RONALD KIMPTON, M.D. 86 Bay State Road
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- CHARLES DAVISON KNOWLTON, M.D. . 574 Warren St., Roxbury
Theory and Practice of Medicine
- FRANK HOWARD LAHEY, M.D. 638 Beacon St.
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- OLGA CUSHING LEARY, M.D. . . . 44 Burroughs St., Jamaica Plain
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Anatomy
- CADIS PHIPPS, A.B., M.D. 536 Commonwealth Ave.
Clinical Medicine
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Theory and Practice of Medicine

Instructors

- ROBERT EATON ANDREWS, A.B., M.D. 4 Brattle St.,
Physiology Cambridge
- AUSTIN BRANT, A.B., M.D. 483 Beacon St.
Obstetrics
- WALTER EMERSON BRIGGS, D.M.D. . . 35 So. Main St., Attleboro
Clinical Dentistry
- EVERETT MITCHELL BROWN, D.M.D. . . . 246 Huntington Ave.
Operative Technics
- EDWARD VALENTINE BULGER, D.M.D. 513 Broadway,
Clinical Dentistry S. Boston
- ELMOND ARTHUR BURNHAM, A.B., M.D. . 154 Huntington Ave.
Clinical Medicine
- RICHARD JOHN RIDGWAY CAINES, M.D. 177 Massachusetts Ave.
Physical Therapeutics
- FRANKLIN EDWARD CAMPBELL, M.D. 414 High St.,
Biological Chemistry and Toxicology W. Medford.

- IVAN ALEXIS TEOFIL CENTERVALL, B.S., D.M.D. . . 2 Park Sq.
Clinical Dentistry
- HOWARD WARDWELL CHURCH, D.M.D. . . . 471 Hope St.,
Clinical Dentistry Bristol, R. I.
- DWIGHT RICHARDSON CLEMENT, D.M.D. . 171 Hemenway St.
Clinical Dentistry
- ALFRED VALENTINE COGAN, D.M.D. . . 651 Broadway, S. Boston
Crown and Bridge Work
- ISADOR HENRY CORIAT, M.D. 416 Marlborough St.
Neurology
- WILLIAM PEARCE COUES, M.D., 31 Massachusetts Ave.
Surgery
- ARTHUR HALLAM CROSBIE, A.B., M.D. . . . 260 Clarendon St.
Genito-Urinary Surgery
- CHARLES BALFOUR DARLING, A.B., M.D. . . . 50 Townsend St.,
Clinical Gynecology Roxbury
- CHARLES HARVEY DAVIS, D.D.S. . 24 High St., Pawtucket, R. I.
Clinical Dentistry
- GILMORE COLBY DICKEY, D.M.D. . . Upham's Corner, Dorchester
Crown and Bridge Work
- FRANK HERBERT DUNBAR, M.D. . . . 52 Pleasant St., Mansfield
Pathology and Bacteriology
- ARTHUR WELLINGTON EWING, D.M.D. 72 Irving St.,
Prosthetic Dentistry Framingham
- WILLIAM MARTIN FLYNN, D.M.D. . . 474A Broadway, S. Boston
Clinical Dentistry
- CHARLES ROMANDEL GALE, D.M.D. 618 Washington St.,
Prosthetic Dentistry Dorchester
- HERBERT SEYMOUR GAY, M.D. 1087 Boylston St.
Clinical Gynecology
- JOSEPH CORNELIUS GETHRO, D.M.D. . . . 848 Washington St.,
Clinical Dentistry Norwood
- NAPOLEON JOSEPH GOULET, D.M.D. . . 254 Main St., Marlboro
Clinical Dentistry
- FREDERICK EDWARD GRANT, D.M.D. . . Boyden Sq., E. Dedham
Clinical Dentistry

- WILLIAM HERBERT GRANT, M.D. 293 Newbury St.
Clinical Gynecology
- HARRY AUGUSTUS GREENE, D.M.D. . . 689 Massachusetts Ave.,
Clinical Dentistry Cambridge
- JOSEPH EDWARD HALLISEY, M.D. . 691 Columbia Rd., Dorchester
Clinical Medicine
- FRANCIS RANDOLPH HENDERSON, D.M.D. . . . 65 Clark St.,
Clinical Dentistry Everett
- JAMES WILLIAM HINCKLEY, M.D. 419 Boylston St.
Clinical Gynecology
- DELBERT LINSOTT JACKSON, B.S., M.D. 366 Commonwealth Ave.
Obstetrics
- ARTHUR PERCY JANES, M.D. 27 Hancock St.
Genito-Urinary Diseases
- FRANCIS JOSEPH KELEHER, A.M., M.D. . 24 Tremont St., Brighton
Medical Jurisprudence
- BRADFORD KENT, M.D. 798 Blue Hill Ave., Dorchester
Pulmonary Diseases
- MINOTT WHITE LEWIS, D.M.D. . . 44 Kidder Ave., W. Somerville
Clinical Dentistry
- HARRY LINENTHAL, A.B., M.D. 442 Warren St., Roxbury
Pulmonary Diseases
- LUKE PETER LYDAKIS, D.M.D. 661 Tremont St.
Prosthetic Dentistry
- HUGH CHARLES MAGUIRE, D.M.D. 715 Centre St., Jamaica Plain
Clinical Dentistry
- FRANCIS PATRICK MCCARTHY, M.D. . . 111 Blue Hills Parkway,
Pathology and Bacteriology Milton
- JOSEPH ALOYSIUS MEHAN, M.D. 4 Park St., Lowell
Chemistry
- HAROLD GIFFORD METTERS, D.M.D. Bridgewater, Mass.
Clinical Dentistry
- ARTHUR LINWOOD MORSE, D.M.D. 520 Beacon St.
Orthodontia
- EDWIN JOHN MORSE, D.M.D. 541 Boylston St.
Prosthetic Dentistry and Oral Prophylaxis

- THOMAS JAMES O'BRIEN, PH.G., M.D. 483 Beacon St.
Clinical Medicine
- ALONZO KINGMAN PAINE, M.D. 366 Commonwealth Ave.
Obstetrics
- ARTHUR CUSHING PEARCE, M.D. 543 Boylston St.
Genito-Urinary Diseases
- EDWIN WILLIAM PETERSON, D.M.D. 711 Boylston St.
Prosthetic Dentistry
- EDWIN HEMPHILL PLACE, M.D. . . . South Dept., City Hospital
Clinical Medicine
- WALTER BOYDEN POPE, B.S. 200 Central St., Somerville
Chemistry and Toxicology
- FREDERICK REIS, M.D. 177 Norfolk St., Dorchester
Biological Chemistry and Toxicology
- ROBERT RAYMOND RICH, D.M.D. 149 Tremont St.
Clinical Dentistry
- HECTOR GEORGE RISEGARL-GAI, D.M.D. 85 Pleasant St.,
Clinical Dentistry Dorchester
- SOLOMON HYMAN RUBIN, M.D. . . . 484 Blue Hill Ave., Roxbury
Histology and Biology
- HARRY CLIFFORD RYDER, D.M.D. . . . 15 Warren St., Stoneham
Clinical Dentistry
- HOLLIS LESTER SEAVEY, M.D. 1 Frost St., Cambridge
Clinical Medicine
- ARTHUR JOHN SHAW, D.M.D. 175 Norfolk St., Dorchester
Prosthetic Dentistry
- FRED EMIL SIMM, D.M.D. 120 Tremont St.
Clinical Dentistry
- RUSSELL BRADFORD SPRAGUE 522 Commonwealth Ave.
Histology
- ALBERT WARREN STEARNS, M.D. . . . 520 Commonwealth Ave.
Neurology
- FREDERICK WINSLOW STETSON, A.B., M.D. . . 504 Warren St.
Clinical Medicine
- EDWARD AUGUSTINE SUPPLE, A.B., M.D. . 409 Marlborough St.
Clinical Surgery

- WILLIAM CHARLES TANNEBRING, D.M.D. . . . 163 Cabot St.,
Clinical Dentistry Beverly
- TOWNSEND WILLIAM THORNDIKE, M.D. . . . 20 Newbury St.
Dermatology
- EDWARD ELIPHALET THORPE, M.D. . . . 711 Boylston St.
Biological Chemistry and Toxicology
- EDWARD LAMBERT TWOMBLY, A.B., M.D. 416 Marlborough St.
Clinical Gynecology
- THOMAS HERBERT VEALE, D.M.D. . . . 1562 Hancock St.
Prosthetic Dentistry Quincy
- HENRY FOWLER RANSFORD WATTS, M.D. . 6 Monadnock St.,
Clinical Medicine and Theory and Practice of Medicine Dorchester
- CHARLES EDWARD WHITNEY, D.M.D. Milford
Clinical Dentistry
- FRANK PERCIVAL WILLIAMS, M.D. 419 Boylston St.
Instructor in Rectal Diseases

Demonstrators

- NATHANIEL WOODBURY BRAGDON, D.M.D. . . . 29 Water St.,
Clinical Dentistry Danvers
- WILLIAM HENRY CANAVAN, D.M.D. . . 180 Shirley Ave., Revere
Operative Technics
- JAMES ELLIOTT COX, D.M.D. 56 High St., Charlestown
Clinical Dentistry
- WILLARD SAWTELLE DAVIS, D.M.D. . . 1034 Hyde Park Ave.,
Clinical Dentistry Hyde Park
- CAROLUS AARON FOX, D.D.S. 419 Boylston St.
Clinical Dentistry
- WALTER HENRY GRANT, D.M.D. . . . 107 Massachusetts Ave.
Clinical Dentistry
- ALLAN JAMES MacDONALD, D.D.S. 16 Arlington St.
Clinical Dentistry
- RENE LUCIEN PETZOLDT, D.M.D. 64 West Newton St.
Clinical Dentistry
- FRANCIS WHITE REGAN, D.M.D. 2 Park Sq.
Clinical Dentistry

JOSEPH WILLIAM SHAY, D.M.D. . . . 238 Warren St., Roxbury

Clinical Dentistry

EUGENE TODHUNTER VINCENT, D.M.D., M.D.

Clinical Dentistry

93 Massachusetts Ave.

OSCAR EMERY WASGATT, D.D.S. 419 Boylston St.

Clinical Dentistry

Assistant Demonstrators

LOUIS RAYMOND BURNETT, M.D. . . 1619 Mass. Ave., Cambridge

Anatomy

WILLIS EARL CLARKE, M.D. 490 Pleasant St., Malden

Anatomy

JAMES JOSEPH HEPBURN, M.D. . . . 536 Commonwealth Ave.

Anatomy and Surgery

FRANCIS FREEMAN HENDERSON, M.D. . . . 39 Newbury St.

Anatomy

PHILIP EDWARD SHERIDAN, A.B., M.D. 480 Broadway, So. Boston

Anatomy

JOSEPH PATRICK TYNAN, M.D. . . . 499 Broadway, So. Boston

Anatomy

Assistants

FREDERICK CARROLL ALLEN D.M.D. . . . 139 Newbury St.

Orthodontia

WILLISTON WRIGHT BARKER, A.B., M.D. . . . 4 Lyndhurst St.,

Children's Diseases

Dorchester

ROGER PARKER BECKMAN, D.M.D. . . 16 Essex St., Cliftondale

Crown and Bridge Department

HAROLD WALTER BROWN, D.M.D. . . 99 Chatham St., East Lynn

Operative Technics

ROBERT CARLYLE COCHRANE, B.S., M.D. . . . 96 Bay State Rd.

Surgery

DANA WARREN DRURY M.D. 407 Marlborough St.

Otology

JAMES J. DUDDY, D.M.D. 15 Cottage St., Brockton

Orthodontia

EDWARD KEITH ELLIS, M.D. 101 Newbury St.

Ophthalmology

- MARTIN JOSEPH ENGLISH, M.D. . . . 514 Commonwealth Ave.
Medicine
- SOMERS FRASER, A.B., M.D. E. Boston Relief Station
Surgery
- WILFRED GOLDWIN FUNNELL, M.D. . . . 156 Huntington Ave.
Pharmacology
- ERNEST WILLOUGHBY GATES, D.M.D. . . 176 Huntington Ave.
Orthodontia
- HAROLD GIRARD GIDDINGS, A.B., M.D. 90 Exeter St.
Surgery
- DAVID ALOYSIUS HEFFERNAN, M.D. 69 Newbury St.
Laryngology
- JOSEPH GORDON HEGARTY, A.B., M.D. . E. Boston Relief Station
Surgery
- RICHARD HENRY HOUGHTON, M.D. . 308 Sumner St., E. Boston
Pulmonary Diseases
- FRANCIS THOMAS JANTZEN, A.B., M.D. . 514 Commonwealth Ave.
Surgery
- JAMES JOSEPH LYNCH, M.D. . . 852 Dorchester Ave., Dorchester
Clinical Medicine
- JOHN ALLEN MACCORMICK, A.B., M.D. 1077 Boylston St.
Clinical Gynecology
- JAMES ALEXANDER MACKENZIE, M.D. 119 Berkeley St.
Physiology
- ANGUS DANIEL MACLENNAN, M.D. 654 Tremont St.
Children's Diseases
- EDWARD MARTIN, M.D. 217 Warren St., Roxbury
Clinical Medicine
- HYMAN MORRISON, A.B., M.D. 103 Glenway St., Dorchester
Clinical Medicine
- LEO THOMAS MYLES, M.D. . . 1776 Massachusetts Ave., Cambridge
Clinical Medicine
- HARRY WINFIELD PERKINS, D.M.D. . . 29 Commonwealth Ave.
Orthodontia
- LOUIS EUFEBE PHANEUF, M.D. 514 Commonwealth Ave.
Gynecology

- HALE POWERS, B.S., M.D. 68 Davis Ave., Brookline
Neurology
- WILLIAM EMERSON PREBLE, A.B., M.D. . . 416 Marlborough St.
Clinical Medicine
- CHARLES ALLEN RILEY, M.D. 1267 Commonwealth Ave.,
Pulmonary Diseases Allston
- MARK HOMER ROGERS, M.D. 483 Beacon St.
Orthopedic Surgery
- GEORGE HALE RYDER, PH.B., M.D. 583 Beacon St.
Ophthalmology
- MELVILLE ALEXANDER SANDERSON, D.M.D. . 302 Crescent St.,
Operative Technics Waltham
- ABRAHAM ISIDOR SHAIN, A.B., M.D. . . 147 Harold St., Roxbury
Theory and Practice of Medicine
- TIMOTHY JOSEPH SHANAHAN, A.B., M.D. . . 419 Boylston St.
Laryngology
- VICTOR ISAIAH SHAPIRA, M.D. 160 Huntington Ave.
Genito-Urinary Diseases
- MAX STURNICK, M.D. 12 Columbia Road
Children's Diseases
- EARLE EDWARD TILTON, M.D. 483 Beacon St.
Laryngology
- OLIVER GOLDSMITH TINKHAM, M.D. 527 Beacon St.
Surgery
- GEORGE LOUIS VOGEL, M.D. 90 Exeter St.
Laryngology
- IRVING JACOB WALKER, A.B., M.D. 527 Beacon St.
Surgery
- JOHN WILLIAM WATSON, A.M., M.D. 613 Beacon St.
Pathology and Bacteriology
- FRANK EDWARD WHEATLEY, A.B., M.D. N. Abington
Physiology
- JOHN CHESTER WILSON, D.M.D. . . 36 Washington St., Beverly
Crown and Bridge Department

Lecturers

- LOUIS ARKIN, B.S., M.D. 366 Commonwealth Ave.
Laryngology
- WALTER ELMORE FERNALD, M.D. Waverley
Mental Diseases
- EDWARD ALEXANDER INGHAM, B.S. . . . 316 Huntington Ave.
Hygiene
- FREEMAN AUGUSTUS TOWER, A.B., M.D. . . . Derry, N. H.
Neuropathology

Laboratory Assistants

Anatomy

- HENRY S. BROWN Providence, R. I.
- RAFE N. HATT West Paris, Me.
- PHILIP E. MELTZER, D.M.D. Roxbury

Physiology

- MILLARD C. CLARK Bethlehem, N.H.
- JONATHAN P. HADFIELD Edgewood, R.I.
- ROYAL K. JOSLIN Worcester
- FREDERICK W. MARONEY Springfield

General and Dental Chemistry

- HAROLD W. CROWELL Lynn
- SIDNEY H. BEERMAN Chelsea
- CHESTER H. TANNEBRING Norwich, Conn.

Histology

- ASADOOR MARKARIAN, D.M.D. Worcester

Administrative Office

- MARY G. HURLEY 11 Auburn St., Roxbury
Stenographer
- FRANCES MILLER 9 Maple St., Chelsea
Clerk in the Department of Operative Technics
- SARAH ELIZABETH MILLER 206 Massachusetts Ave.
Clerk in the Department of Prosthodontia
- MARY WRIGHT RICHARDSON 884 Huntington Ave.
Clerk in the Department of Clinical Dentistry
- ESTHER C. TATTAN 77 Belmont St., Somerville
Clerk in Crown and Bridge Department
- LILLIAN M. TATTAN 77 Belmont St., Somerville
Clerk to Secretary
-

Tufts College Medical and Dental Schools

The Tufts College Medical School was established in Boston in 1893 and the Dental school, formerly the Boston Dental College, became a part of Tufts College in 1899. Both are administered by the Trustees of Tufts College and are co-educational, women being admitted upon the same terms as men.

THE MEDICAL AND DENTAL BUILDING

416 Huntington Avenue, Boston, Mass.

The building—at which all exercises are conducted except those given to upper classmen at the hospitals—is equipped solely for the teaching of Medicine and Dentistry and courses connected therewith. There are seven lecture rooms. On the second, third, and fourth floors, extensive laboratories are provided which give excellent facilities for teaching. Private research laboratories are connected with each general laboratory.

The building may be reached by Huntington Avenue Subway cars, except those on the Roxbury and Dorchester lines.

CLINICAL FACILITIES

Boston, as the largest city in New England, offers unusual facilities to the student of medicine. The amphitheatres of the Boston City Hospital, the Massachusetts General Hospital, and the Massachusetts Charitable Eye and Ear Infirmary and other hospitals are open to students, and opportunity is thus afforded for witnessing a great variety of medical and surgical cases.

Clinics available to medical students are held at the institutions given in the following list, and opportunities are also offered at various private hospitals.

Boston City Hospital 818 Harrison Ave., Boston
 Boston Consumptive Hospital O. P. D. . 13 Burroughs Place, Boston
 Boston Dispensary Corner of Bennett and Ash Sts., Boston
 Boston State Hospital (Psychopathic Dept.) . 74 Fenwood Rd., Boston
 Carney Hospital Old Harbor St., South Boston
 Free Home for Consumptives 428 Quincy St., Dorchester
 House of the Good Samaritan Binney St., Boston
 Mass. Charitable Eye and Ear Infirmary . . . 233 Charles St., Boston
 Massachusetts General Hospital Blossom St., Boston
 Massachusetts School for Feeble-minded Waverley, Mass.
 Mass. State Sanatorium for Treatment of Tuberculosis . Rutland, Mass.
 Mt. Sinai Hospital 17 Staniford St., Boston
 Robert Brigham Hospital Parker Hill Ave., Boston
 St. Elizabeth's Hospital 61 West Brookline St., Boston

The clinical advantages offered dental students are exceptional. In addition to the work in the School Infirmary, students are assigned to the dental clinics at the Boston Dispensary, the Hull House Dispensary, the City Institution at Deer Island, the Hood Rubber Co., Watertown, and the Forsyth Dental Infirmary for Children. In these institutions students receive practical instruction under the direction of officers of the School.

Further opportunities for instruction are furnished by the clinics and operations at the large hospitals of the city. Numerous operations upon the face and oral cavity are performed before students, and all connected with the School are urged to avail themselves of the facilities thus offered.

LIBRARIES

The students of this School have free access to the Medical School Library, to the Library of Tufts College, to the Boston Public Library, and to the Boston Medical Library.

The Boston Medical Library, which is situated near the School, has one of the largest and most complete collections of medical works in America. All the leading medical journals are on file. The reading rooms are open daily from October 1 to May 31, from 9.30 A.M. to 10.00 P.M., except Sundays and holidays. The hours on Saturdays are from 9.30 A.M. to 6 P.M.

EXPENSES

A fee of *five dollars* is paid at the time of registration.

A tuition fee of *one hundred and fifty dollars* is payable on the opening day, and, unless otherwise arranged, must be paid in full before October 1.

If desired, the tuition may be paid in two instalments, in which case an additional charge of five dollars is made, and the fee is then paid as follows:

First payment:—*Eighty dollars*, payable on or before the opening day.

Second payment:—*Seventy-five dollars*, payable on or before January 15.

The student is charged the cost price of anatomical material and of apparatus and glassware broken.

No student will be admitted to the exercises of the first half-year who has not first paid his registration fee and at least the "First Payment," and no student will be admitted to the exercises of the second half-year who has not paid his fees in full.

Students leaving the School have no claim for tuition paid.

Students who have failed in a subject are required to pay a fee of five dollars for re-examination.

The expenses of living in Boston need not exceed those in small cities and villages. Good board, including room, heat, and light, may be obtained in the vicinity of the School at from \$5.50 to \$7 a week. Students will not be allowed to occupy rooms disapproved by the Faculty.

REGISTRATION

The registration period for the session 1916-17 will begin at the Medical-Dental Building, 416 Huntington Avenue, Boston, on Tuesday, September 5, 1916, at 9 A.M.; and must be made in person. Registration is conducted at the Medical-Dental Building only.

SESSIONS OF THE SCHOOL

The Medical and Dental school-year will begin on September 21, 1916, and will continue until Thursday, June 14, 1917. Intermissions and other details are given in the calendar.

MEDICAL SCHOOL

CHARLES FAIRBANK PAINTER, A.B., M.D., Dean
FRANK GEORGE WHEATLEY, A.M., M.D., Vice-Dean
FRANK EUGENE HASKINS, PH.G., M.D., Secretary

Standing Committees

The Dean and the Secretary of the Medical School are members of all standing committees, *ex officiis*.

ADMINISTRATION. — The President, Drs. Wheatley, Conant and Leary.

COURSE OF INSTRUCTION. — The President, Drs. Ames, Conant, Friedman, Wheatley, Chenery, and Bates.

WOMEN'S ADVISORY COMMITTEE. — Drs. Elizabeth A. Riley, Olga Cushing Leary, and Edna Weil Dreyfus.

The Faculty of the Medical School

Administrative Officers

HERMON CAREY BUMPUS, PH.D., SC.D., LL.D.

PRESIDENT

CHARLES FAIRBANK PAINTER, A.B., M.D.

Dean

FRANK GEORGE WHEATLEY, A.M., M.D.

Vice-Dean

FRANK EUGENE HASKINS, PH.G., M.D.

Secretary of the Faculty

Professors Emeriti

FREDERIC MELANCTHON BRIGGS, A.B., M.D.

Surgery

HENRY BECKLES CHANDLER, C.M., M.D.

Ophthalmology

ERNEST WATSON CUSHING, A.B., M.D., LL.D.

Abdominal Surgery and Gynecology

JOHN LEWIS HILDRETH, A.M., M.D., LL.D.

Clinical Medicine

MORTON PRINCE, A.B., M.D., LL.D.

Neurology

GEORGE HAMLIN WASHBURN, A.B., M.D.

Obstetrics

HAROLD WILLIAMS, A.B., M.D., LL.D.

Theory and Practice of Medicine

Professors

JOHN LINCOLN AMES, A.B., M.D.

Theory of Practice and Medicine

ALFRED WILLIAM BALCH, PH.G., M.D.

Biological Chemistry and Toxicology

GEORGE ANDREW BATES, M.Sc., D.M.D.

Histology

WILLIAM ELISHA CHENERY, M.D.

Laryngology

WILLIAM MERRITT CONANT, A.B., M.D.

Clinical Surgery

ELWOOD TRACY EASTON, M.D.

Ophthalmology

WILLIAM ROBIE PATTEN EMERSON, A.B., M.D.

Children's Diseases

LEO VICTOR FRIEDMAN, A.B., M.D.

Obstetrics

GEORGE WARTON KAAH, M.D.

Clinical Gynecology

FRANCIS JOSEPH KEANY, A.M., M.D.

Dermatology

EDWARD BINNEY LANE, A.B., M.D.

Mental Diseases

TIMOTHY LEARY, A.M., M.D.,

Pathology, Bacteriology and Mental Jurisprudence

EDWARD HORTON LIBBY, A.B., MD.

Theory and Practice of Medicine

EDWARD OSGOOD OTIS, A.B., M.D.

Pulmonary Diseases and Climatology

CHARLES FAIRBANK PAINTER, A.B., M.D.

Orthopedic Surgery

EDWARD MARWICK PLUMMER, M.D.

Otology

WALTER EDWARD SULLIVAN, PH.D.

Anatomy

JOHN JENKS THOMAS, A.M., M.D.

Neurology

FRANK GEORGE WHEATLEY, A.M., M.D.

Materia Medica and Therapeutics

CHARLES MELVILLE WHITNEY, M.D.

Genito-Urinary Diseases

Associate Professors

ALLEN GREENWOOD, M.D.

Ophthalmology

STEPHEN RUSHMORE, A.B., M.D.

Gynecology

Assistant Professors

ARTHUR EVERETT AUSTIN, A.B., M.D.

Clinical Medicine and Lecturer in Gastro-Intestinal Diseases.

ELMER WALTER BARRON, A.B., M.D.

Children's Diseases

ARTHUR LAMBERT CHUTE, M.D.

Genito-Urinary Surgery

ARTHUR WILLARD FAIRBANKS, M.D.

Neurology

ARIAL WELLINGTON GEORGE, M.D.

Roentgenology

FRANK EUGENE HASKINS, PH.G., M.D.

Materia Medica and Therapeutics

EDGAR MILLER HOLMES, M.D.

Otology

ARTHUR RONALD KIMPTON, M.D.

Surgery

CHARLES DAVISON KROWLTON, M.D.

Theory and Practice of Medicine

FRANK HOWARD LAHEY, M.D.

Clinical Surgery

OLGA CUSHING LEARY, M.D.

Pathology and Bacteriology

FRANCIS HENRY McCRUDDEN, B.S., M.D.

Applied Therapeutics

WALTER FREEMAN NOLEN, M.D.

Anatomy

CADIS PHIPPS, A.B., M.D.

Clinical Medicine

LOUIS MAHLON SPEAR, A.B., M.D.

Theory and Practice of Medicine

The Medical School

REQUIREMENTS FOR ADMISSION TO COURSES LEADING TO THE DEGREE OF DOCTOR OF MEDICINE

The following requirements for admission to the Medical Courses are in accordance with the rules which, as adopted by the Association of American Medical Colleges, control admission to medical schools of "Class A."

Admission to the first-year class may be obtained in two ways. In either case the applicant should file the accompanying blank.

1. For Those Having Collegiate Degrees

The candidate for admission must present satisfactory evidence that he is a graduate of an accredited college or university and has received the bachelor's degree. He must have had courses in Physics, Biology, Chemistry, and a Modern Language, each sufficient in amount to be the equivalent of one year of work as given in approved colleges.

A student entering Tufts College as a freshman may combine his collegiate and medical school courses so that in seven years he can take both his bachelor's and his doctor's degrees.

Work for the first three years is pursued in the School of Liberal Arts, and for the remaining four in the Medical School. At the end of the fourth year the bachelor's degree may be conferred, and at the end of the seventh year the degree of Doctor of Medicine.

2. For Those Without Collegiate Degrees.

The candidate for admission must present evidence that he has completed a Pre-Medical Course of at least one year's work in an accredited college or university, including courses in Physics, Chemistry, Biology, and German or French.

Information concerning the One-Year Pre-Medical Course given by Tufts College, and the conditions of entrance thereto, is given in this publication under the title "One-Year Pre-Medical Course."

ADMISSION TO ADVANCED STANDING AND REMOVAL OF CONDITIONS

Students who have taken courses in other accredited medical schools may be admitted to advanced classes upon presenting satisfactory evidence, by credentials or by examination, that they are qualified.

Examinations to establish this qualification are given at the Medical-Dental Building, on a schedule arranged by the Secretary, and begin on September 6, 1916.

Students from other colleges intending to take examinations for admission to advanced standing and those who desire to remove conditions are required to notify the Secretary on or before Tuesday, September 5, 1916.

Before taking these examinations each student must register by signing his name on the registration blank provided for the purpose. If a student fails to register in this manner, he will receive no credit for his examination.

OUTLINE OF COURSES

First Year

First Semester

Descriptive Anatomy	<i>Twenty-two hours a week</i>
Histology	<i>Twelve hours a week</i>

Second Semester

Physiology	<i>Twenty hours a week</i>
Descriptive Anatomy	<i>Two hours a week</i>
Embryology	<i>Two hours a week</i>

Second Year

The following subject is given throughout the school-year:

Physical Diagnosis	<i>Two hours a week</i>
<i>First Semester</i>	
Pathology and Bacteriology	<i>Twenty-seven hours a week</i>
<i>Second Semester</i>	
Biological Chemistry	<i>Twenty-four hours a week</i>
Pharmacology	<i>Eight hours a week</i>
Bandaging and Surgical Technique	<i>Two hours a week</i>
Toxicology	<i>Two hours a week</i>

Application for Admission
to the
Tufts College Medical School

Date.....

I hereby apply for enrollment in the Tufts College Medical School as a candidate for the degree of M.D.

Name in full

.....

P.O. Address: Street and No.

City or Town

State

Date of Birth

Place of Birth.....

Parent or Guardian

For certificate as to my moral character consult

.....

(Name)

.....

(Address)

Secondary Schools. (State *Name* and *Number* of years attended.)

.....

.....

.....

Total years..... Diploma was received. Date.....

I plan to register, in person, at the Medical School

(Date)

(OVER)

**I. This section is to be used by those applying for admission
"On a Collegiate Degree."**

Name of College or University from which you have received your degree

.....

Dates of Entrance and Graduation

.....

Degree received

The applicant must attach a certificate of graduation, duly signed by an officer of the college from which he has graduated, stating that he has satisfactorily completed work in Chemistry, Physics, Biology, and French or German equivalent in amount to that given in the One-Year Pre-Medical Course at Tufts College, or as defined by the Association of American Medical Colleges.

**II. This section to be used by those who apply for admission
"Without Collegiate Degree."**

Name of College or University in which you have taken your Pre-Medical

Course

Dates of beginning and ending Pre-Medical Course

.....

The applicant must attach a letter of honorable dismissal and a transcript of record reciting the amount and quality of his work and his standing in the following subjects: Physics, Chemistry, Biology, and either French or German. This letter must be signed by an officer of an accredited college or university.

This application should be forwarded to

FRANK E. HASKINS, M.D., *Secretary*,
Tufts College Medical School,
416 Huntington Ave., Boston, Mass.

Third Year

The following subjects are given throughout the school-year:

Theory and Practice of Medicine	<i>Three hours a week</i>
Clinic	<i>Equivalent to three hours a week</i>
Surgery	<i>Six hours a week</i>
Clinic	<i>Equivalent to three hours a week</i>
Obstetrics	<i>Three hours a week</i>
Clinic (delivery of six cases)	<i>Equivalent to two hours a week</i>
Laryngology	<i>Two hours a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Diseases of Children	<i>One hour a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Medical Diagnosis	<i>One hour a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Genito-Urinary Diseases	
Clinic	<i>Equivalent to one hour a week</i>
Ophthalmology	<i>One hour a week</i>

First Semester

Hygiene and Sanitation	<i>Two hours a week</i>
Neurology	<i>Two hours a week</i>
Pulmonary Diseases	
Clinic	<i>Equivalent to one hour a week</i>

Second Semester

Hematology	<i>One hour a week</i>
Pulmonary Diseases	<i>One hour a week</i>
Clinic	<i>Equivalent to two hours a week</i>
Gynecology	<i>Three hours a week</i>
Genito-Urinary Diseases	<i>One hour a week</i>
Ophthalmology	
Clinic	<i>Equivalent to one hour a week</i>

Fourth Year

The following subjects are given throughout the school-year:

Clinical Medicine	<i>Four hours a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Clinical Surgery	<i>Five hours a week</i>
Clinic	<i>Equivalent to one hour a week</i>

Orthopedic Surgery	<i>Three hours a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Applied Therapeutics	<i>One hour a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Clinical Medicine	<i>Two hours a week</i>
Diseases of Children	<i>One hour a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Medical Jurisprudence	<i>One hour a week</i>
Dermatology	<i>One hour a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Operative Surgery and Surgical Anatomy—Demonstrations.	

First Semester

Neurology	<i>Two hours a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Otology	<i>Three hours a week</i>
Clinic	<i>Equivalent to one hour a week</i>
Roentgenology	<i>One hour a week</i>

Second Semester

Operative Obstetrics—Demonstrations.	
Clinical Gynecology—Demonstrations.	
Mental Diseases	<i>One hour a week</i>
Clinic	<i>Equivalent to one hour a week</i>

Description of Four-Year Course of Study

(Leading to the Degree of Doctor of Medicine)

It is the plan of this course, which requires four years of residence, to correlate the classroom work of the first two years with the practical hospital experience of the third and fourth years, leading thus to a well-rounded medical and surgical training. The morning work of the fourth year is largely clinical, the students being assigned in sections for practical work in Hospital and Out-Patient Clinics.

ANATOMY

Dr. SULLIVAN

Dr. BURNETT

Dr. HENDERSON

Dr. NOLEN

Dr. CLARK

Dr. HEPBURN

Dr. TYNAN

The anatomical laboratory is equipped with charts, models and regional dissections for demonstrations. A departmental library is maintained for the students.

Descriptive Anatomy. This is a laboratory course on the cadaver. Each student dissects a lateral half of the body. Lectures, demonstrations and recitations supplement the laboratory work.

Applied Anatomy. It is planned to give a course which will correlate the descriptive anatomy with clinical work. This course will require ten hours per week for one half-year.

Statement of Expenses Incidental to Work in Anatomy

Dissecting material	\$15.00	Laboratory coat	\$1.25
Dissecting instruments	\$5.00-\$8.00	Text-books	\$7.00-\$15.00
Bone deposit	\$5.00		

HISTOLOGY

Dr. BATES

Dr. RUBIN

Dr. SPRAGUE

The course in Histology is carried on during the first semester of the first year. It consists of lectures and laboratory work in microscopic anatomy.

PHYSIOLOGY

Dr. ANDREWS

Dr. MCKENZIE

Dr. F. E. WHEATLEY

The course consists of recitations, lectures, and laboratory work besides laboratory demonstrations and thesis work in the libraries.

In the recitations, a real familiarity with the subject-matter of an assigned text-book of physiology is required. The lectures set forth and attempt to explain the principles of general and descriptive physiology, and suggest some of the relations to the allied sciences. Special attention is given to the functions of the nervous system.

In the laboratory, the student has opportunity to acquire a degree of technical skill in constructing and manipulating instruments and apparatus, and demonstrates for himself some of the more important facts of the subject.

EMBRYOLOGY

Dr. BATES

The course will cover the science so far as to fit the student with knowledge sufficient for his studies in obstetrics, and such other departments as may deal with embryonic conditions.

PATHOLOGY AND BACTERIOLOGY

Dr. LEARY

Dr. DUNBAR

Dr. MCCARTHY

Dr. OLGA CUSHING LEARY

Dr. WATSON

Miss FRITZ

Miss PEWS

The instruction in Pathology consists of lectures, recitations, and demonstrations of fresh and museum specimens, supplemented by experiments and practical laboratory work in pathological histology.

Instruction in autopsy technique is carried out in the amphitheatre of the school and the amphitheatre of the Southern District Mortuary. The supply of fresh material, both surgical and autopsy, is relatively large and it is usually possible to

illustrate most of the common disease processes and many of the rare lesions.

Bacteriology is taught as a companion study to Pathology. As infectious processes are taken up, the bacterial causes are studied in connection with the pathology of the disease which they produce and demonstration is made of experimental lesions produced by the important pathogenic bacteria.

Immunology is taught by lectures, recitations and practical laboratory work.

BIOLOGICAL CHEMISTRY

Dr. BALCH

Dr. CAMPBELL

Dr. REIS

Dr. THORPE

The course in Biological Chemistry begins with a study of the carbohydrates, proteins and fats. Then follows consideration of the Chemical Physiology and Chemical Pathology of the human body.

Special attention is given to the chemistry and microscopy of urine, feces, blood and gastric contents. A large part of the laboratory work is devoted to these exercises.

Diagnosis of renal, gastric and intestinal diseases from chemical and microscopic findings is fully considered.

PHARMACOLOGY

Dr. F. G. WHEATLEY

Dr. FUNNELL

Dr. HASKINS

Dr. MCCRUDDEN

This course consists of lectures, recitations and laboratory exercises.

Special attention is given to the physiological action of drugs and to their therapeutical applications as indicated by clinical experience and by physiological and pathological conditions. The laboratory course is designed to familiarize the student with medicinal preparations. Prescription writing receives careful attention, and both the metric and apothecary systems are used. Recent additions in materia medica receive due consideration.

Applied Therapeutics. Fourth year students, in small sections, are given an opportunity to observe the results of the application of therapeutical agents.

TOXICOLOGY

	Dr. BALCH	
Dr. CAMPBELL	Dr. REIS	Dr. THORPE

The course in Toxicology is systematic and comprehensive. Students are required to determine the identity of various organic and inorganic poisons in stomach contents, tissues and in food.

In addition to the regular recitations, there are occasional conferences at which cases of poisoning are discussed.

MEDICINE

	Dr. AMES	
Dr. AUSTIN	Dr. KENT	Dr. POWERS
Dr. BARKER	Dr. KNOWLTON	Dr. PLACE
Dr. BARRON	Dr. LANE	Dr. PREBLE
Dr. BURNHAM	Dr. LIBBY	Dr. RILEY
Dr. EMERSON	Dr. LINENTHAL	Dr. SEAVEY
Dr. ENGLISH	Dr. LYNCH	Dr. SHAIN
Dr. FAIRBANKS	Dr. MACLENNAN	Dr. SPEAR
Dr. FERNALD	Dr. MARTIN	Dr. STEARNS
Dr. GEORGE	Dr. MORRISON	Dr. STETSON
Dr. HALLISEY	Dr. MYLES	Dr. STURNICK
Dr. HOUGHTON	Dr. O'BRIEN	Dr. THOMAS
Mr. INGHAM	Dr. OTIS	Dr. TOWER
Dr. KELEHER	Dr. PHIPPS	Dr. WATTS

The Department of Medicine receives the students in the second year, after they have completed courses in Anatomy, Physiology and Histology.

Physical Diagnosis. During the second year the students meet in small groups at the out-patient departments and in district visits, and are given instruction of a practical nature in "history taking" and "physical diagnosis." In this course only the minor medical disturbances are, as a rule, considered.

Theory and Practice of Medicine. The instruction consists of clinical lectures delivered to the entire class at the hospitals and in small sections at ward visits, where diseased conditions are followed in their various stages.

Diseases of Children. This course is conducted by lectures given at the Medical School and at clinics given at the hospitals.

Medical Diagnosis. The students are shown the methods of clinical investigation, differential diagnosis and the gross pathological lesions.

Hematology. A laboratory course in the examining of the blood, involving practical work with the microscope.

Pulmonary Diseases. Pulmonary Diseases are considered as cognate parts of internal medicine and assigned their proper proportion of time for didactic and clinical instruction by the department.

Neurology. This course is conducted by Dr. John P. Thomas, whose lectures are followed by clinical work in the Boston City Hospital under the direction of Dr. Fairbanks and Dr. Coriat.

Hygiene and Sanitation. Hygiene and Sanitation are conducted during the first half of the third year.

Genito-Urinary Diseases. This course is given by Dr. Whitney and Dr. Chute. It consists of lectures supplemented by clinical work at the Boston Dispensary and Mt. Sinai Hospital.

Clinical Medicine. Clinical Medicine is continued in the fourth year in a practical manner by the appointment of students as clinical assistants in the out-patient departments and in the wards of hospitals.

Medical Jurisprudence. This course, which consists of a series of lectures, extends throughout the fourth year, and is given by Dr. F. S. Kelleher.

Rectal Diseases. This course is given by Dr. Frank P. Williams. It is introduced by a series of lectures and is continued by clinical demonstrations at the Boston Dispensary.

Neuropathology. Dr. Tower gives a series of illustrated lectures on the pathology of the nervous system which is subsequently illustrated by cases at the Boston City Hospital.

Mental Diseases. The College has exceptional facilities for instruction in this subject. A course of lectures is given by Dr. E. B. Lane and clinical opportunities are available at several of the larger hospitals.

SURGERY

Dr. CONANT

Dr. COCHRANE

Dr. COUES

Dr. CHUTE

Dr. CROSBIE

Dr. FRASER

Dr. GIDDINGS

Dr. HEGARTY

Dr. HEPBURN

Dr. JANES

Dr. JANTZEN

Dr. KIMPTON

Dr. LAHEY

Dr. PAINTER

Dr. PEARCE

Dr. ROGERS

Dr. SHAPIRA

Dr. SUPPLE

Dr. TINKHAM

Dr. WALKER

Dr. WHITNEY

Dr. F. P. WILLIAMS

Bandaging and Surgical Technique. The Department of Surgery first comes in contact with the students in the second year after they have had their descriptive Anatomy and Dissection, Physiology and Histology. In small sections at the several surgical out-patient departments, they are taught the principles of asepsis and antisepsis. At operations, they are taught something of the technique of minor surgery and receive practical instruction in the art of applying surgical dressings and in bandaging. Correlated with the second year of surgical instruction it is planned to give a course in Applied Anatomy.

Surgery. In the third year instruction by didactic and clinical lectures begins. The former are given at the Medical School and the latter at the hospitals. The clinical work is conducted chiefly by class demonstrations upon surgical patients and mainly with a view to diagnosis and treatment. This work is supplemented by ward visits in small groups where the results of treatment are demonstrated and post-operative care is illus-

trated. Correlated with this clinical instruction there is a laboratory course in Surgical Pathology in which the pathological changes of the principal surgical lesions are demonstrated and the repair processes incident to the recovery from surgical affections are followed.

Clinical Surgery. In the fourth year, clinical lectures are continued. Practical out-patient work is required of each student for a month in minor surgery, in **genito-urinary surgery** and in **orthopedics** respectively.

Operative Surgery and Surgical Anatomy. The course in operative surgery upon the cadaver is essentially a course in surgical anatomy and in practical operative surgery.

Opportunity to witness major surgical operations in the large hospitals is open to the students on public operating days.

GYNECOLOGY AND OBSTETRICS

Dr. KAAH	Dr. FRIEDMAN	Dr. RUSHMORE
Dr. BRANT	Dr. GRANT	Dr. MACCORMICK
Dr. DARLING	Dr. HINCKLEY	Dr. PAINE
Dr. GAY	Dr. JACKSON	Dr. TWOMBLY

The work of the two departments is administered as a unit.

Gynecology. During the third year, second semester, there are three exercises (two lectures and one quiz) each week in Gynecology. The students in small sections, throughout the fourth year, instruction is given in the making of examinations, and in methods of diagnosis and treatment.

Obstetrics. The instruction in Obstetrics consists of lectures, recitations, and clinical teaching. Each student is given the opportunity to serve as externe in the Obstetric Out-Patient department, where he personally delivers the six cases required for the degree. He is required to care for these cases during convalescence and to write a detailed report.

For the women students, arrangements have been made with the New England Hospital for Women and Children whereby each student attends her required number of confinements.

Operative Obstetrics. All the important obstetric operations and operative manœuvres are demonstrated to the class in small sections, and each student performs these operations on models under the guidance of the instructor. This individual teaching constitutes a highly valuable and practical experience.

Clinical Gynecology. This instruction is give at the clinics of the Dispensary for Women, at the Boston Dispensary, and at St. Elizabeth's Hospital. Adequate provision is made for students to witness plastic operations and major pelvic surgery at the Carney Hospital. Weekly class conferences are held during the second semester.

OPHTHALMOLOGY

Dr. GREENWOOD

Dr. EASTON

Dr. ELLIS

Dr. RYDER

The course in ophthalmology is of a practical character being designed to give the general practitioner such knowledge of the subject as is most essential to his practice.

OTOLOGY

Dr. DRURY

Dr. HOLMES

Dr. PLUMMER

Instruction in otology consists of lectures on the anatomy, physiology, and pathology of the ear, and the student must prepare a dissection and model of the human ear. The lectures are illustrated by models, anatomical specimens, bone-corrosion preparations, and by microscopical sections of the organ of hearing.

LARYNGOLOGY

Dr. CHENERY

Dr. ARKIN

Dr. SHANAHAN

Dr. VOGEL

Dr. HEFFERNAN

Dr. TILTON

Third year students are given during the first semester a systematic course of lectures, illustrated by colored diagrams, models, pathological specimens and instruments.

Clinical laryngoscopy and rhinoscopy are required throughout the year. By practical examination the technique of instrumentation is taught as well as general diagnosis and treatment. The student is made familiar with ordinary diseases of the nose and throat and sees the more important operations.

DERMATOLOGY

Dr. KEANY

Dr. THORNDIKE

The instruction in dermatology consists of weekly lectures to the fourth-year students. Diseases of the skin are shown to the class at the Boston City Hospital. Opportunity is given for each student to examine the cases personally.

ROENTGENOLOGY

Dr. GEORGE

The School is well equipped with apparatus for making X-ray examinations. Lectures are given to the members of the fourth year class and students especially interested are given facilities of exceptional value at hospitals and private offices.

General Information

TERM EXAMINATIONS

Regular examinations for promotion and for graduation are held at the end of each course.

In all examinations (except those for entrance) each student must register by signing his name on the registration blank provided by the Secretary for that purpose.

At the end of each session a certificate of his standing for the year is sent by mail to each student. No marks will be sent or credit given to any student who is in arrears with the Bursar.

GRADUATION

Before the degree of M.D., Doctor of Medicine, can be conferred, candidates must fulfil the following requirements:

1. They must have paid all Medical School charges including the cost of their diploma.
2. They must furnish certificates that they are at least twenty-one years of age.
3. They must have passed all the required examinations, and have performed the required amount of laboratory and clinical work.
4. They must have attended for four college years, some accredited medical college, the last of which must have been at this School as members of the fourth-year class.
5. They must be of good moral character.

HONORS

Students who have attended this School for four years, and have obtained an average of ninety per cent. in their examinations, shall be eligible to "*summa cum laude*," and those who have obtained an average of eighty per cent. shall be eligible to "*cum laude*," and their diplomas are so inscribed.

Degrees are publicly conferred on Commencement Day at Goddard Chapel, Tufts College.

The College reserves the right to accept and retain students as it may elect. Requirements and regulations are subject to change without notice.

DENTAL SCHOOL

CHARLES FAIRBANK PAINTER, A.B., M.D., Dean
FRANK GEORGE WHEATLEY, A.M., M.D., Vice-Dean
FRANK EUGENE HASKINS, Ph.G., M.D., Secretary

Standing Committees

The Dean and the Secretary of the Dental School are members of all Committees, *ex officio*.

ADMINISTRATION.—The President, Drs. Bates, Johnson, Farris, Strout, and Keltie.

ADMISSION.—Drs. Leary, Bates, and Professor Wren.

LIBRARY.—Drs. Bates and Houston.

INSTRUCTION.—Drs. Johnson and Bates.

WOMEN'S ADVISORY COMMITTEE.—Drs. Elizabeth A. Riley, Olga Cushing Leary, and Edna Weil Dreyfus.

The Faculty of the Dental School

Administrative Officers

HERMON CAREY BUMPUS, PH.D., Sc.D., LL.D.

PRESIDENT

CHARLES FAIRBANK PAINTER, A.B., M.D.

Dean

FRANK GEORGE WHEATLEY, A.M., M.D.

Vice-Dean

FRANK EUGENE HASKINS, PH.G., M.D.

Secretary

Professors Emeriti

FREDERIC MELANCTHON BRIGGS, A.B., M.D.

Surgery

HAROLD WILLIAMS, A.B., M.D., LL.D.

Theory and Practice of Medicine

Professors

GEORGE ANDREW BATES, M.Sc., D.M.D.

Histology

WILLIAM ELISHA CHENERY, A.B., M.D.

Oral Surgery

FRANK ALEXANDER DELABARRE, A.B., D.D.S., M.D.

Orthodontia

ERVIN ARTHUR JOHNSON, D.M.D.

Clinical Dentistry

JAMES KELTIE, D.D.S.

Crown and Bridge Work

TIMOTHY LEARY, AM., M.D.

Pathology, Bacteriology and Medical Jurisprudence

CHARLES FAIRBANK PAINTER, A.B., M.D.

Orthopedic Surgery

CHARLES ALFRED PITKIN, A.M., PH.D.

Chemistry

WILLIAM RICE, D.M.D.

Operative Dentistry

BYRON HOWARD STROUT, D.D.S.

Operative Technics

WALTER EDWARD SULLIVAN, PH.D.

Anatomy

FRANK GEORGE WHEATLEY, A.M., M.D.

Pharmacology

Associate Professors

GEORGE COOK AINSWORTH, D.D.S., D.M.D.

Clinical Dentistry

Assistant Professors

CURTIS WILLIAM FARRINGTON, D.M.D.

Clinical Dentistry

WALTER EMERSON FARRIS, D.D.S.

Prosthetic Dentistry

ARIAL WELLINGTON GEORGE

Roentgenology

FRANK EUGENE HASKINS, PH.G., M.D.

Pharmacology

WILLIAM PRESTON HOUSTON, D.M.D.

Clinical Dentistry

OLGA CUSHING LEARY, M.D.

Pathology and Bacteriology

WALTER FREEMAN NOLEN, M.D.

Anatomy

The Dental School

REQUIREMENTS FOR ADMISSION TO THE THREE-YEAR COURSE LEADING TO THE DEGREE OF DOCTOR OF DENTAL MEDICINE

The Tufts College Dental School is a member of the National Association of Dental Faculties, and of the National Association of Dental Examiners.

The National Association of Dental Faculties voted that beginning with the session of 1917-18, its constituent schools should increase their courses from three to four years.

Admission to the first-year class may be obtained in one of two ways:

(1) *By presenting a diploma and a transcript of record from an accredited high school or academy:*

The transcript of record must show adequate preparation in certain subjects falling in two groups, known respectively as the Required and the Elective Group. In these groups the term "unit" represents a year's study in the specified subjects and is the equivalent of approximately a quarter of a full year's work.

Required Group, 8 Units	Units
English	3
Foreign Language (elementary)	2
History	1
Algebra A1	1
Plane Geometry	1

No subject offered in the Required Group can be counted in the Elective Group.

In addition to the eight units of the Required Group candidates for admission must also present subjects chosen from the following Elective Group equivalent to six and one-half units.

**Application for Admission
to the
Tufts College Dental School**

I hereby apply for enrollment in the Tufts College Dental School as a candidate for the degree of D.M.D.

Name in full, including middle name.

.....

Date.....

P. O. Office Address; City or Town.....

State

Street and No.

Date of Birth

Place of Birth

Name of Parent or Guardian

Address of Parent or Guardian.....

For certificate as to my moral character consult

.....
(Name)

.....
(Address)

Previous education: (State *Name* of each school and *Number* of years attended.)

.....

Total years..... Diploma was received: Date.....

.....

I plan to register, in person, at the Dental School. Date:

This application must be accompanied by a certificate of graduation and a full statement of the applicant's secondary school record. These documents must be signed by the school principal.

Answer the above questions fully, clearly, and accurately, and forward to

FRANK E. HASKINS, M.D.,
Secretary Tufts College Dental School,
416 Huntington Ave., Boston, Mass.

The Elective Group, 6½ Units

	Units		Units
Greek	2 or 3	Freehand Drawing	½*
Latin	2, 3, or 4	Shop Work	½ to 2*
French	2 or 3	Musical Appreciation	½
German	2 or 3	Music (Harmony)	½
Chemistry	1	Algebra A2	1
Physics	1	Advanced Algebra	½
Biology	1	Solid Geometry	½
Botany	1	Trigonometry	½
Zoology	1	English History	1
Geology or Geography	1	Ancient History	1
Mechanical Drawing	1*	American History and Civil Government	1

(2) *By passing examinations:*

Students who desire to satisfy the above requirements may take the examinations either in June or in September, or a part in June and a part in September.

The June examinations, arranged by the College Entrance Examination Board, will be given June 19 to 24, 1916, at Robinson Hall, Tufts College, Mass., and elsewhere, as announced by the Board. All applications for June examinations must be addressed to the Secretary of the College Entrance Examination Board, Post Office Station H, New York, N.Y., and the student intending to take the Board examinations should make his plans known to the Secretary at an early date, if possible prior to May 1, in order to comply with all of the conditions imposed by the Board.

The September examinations are arranged by Tufts College and will be given September 14 to 16, 1916, at Ballou Hall, Tufts College, Mass. On the day of their first examination applicants for the September examinations are required to register at the office of the Registrar at Tufts College and pay an examination fee of \$5.00.

* A total of not more than two units in three subjects.

The schedule of examination dates for September, 1916, is as follows:

- SEPT. 14. Elementary and Intermediate, French, 9 to 11; Elementary and Intermediate, German, 11 to 1; Elementary and Advanced Greek, Advanced Algebra and Trigonometry, 2 to 5.
- SEPT. 15. Algebra, 9 to 10.30; English, 10.30 to 12.30; Plane Geometry, 2 to 4; Physics, 4 to 5; Drawing, 4 to 6.
- SEPT. 16. Elementary, Intermediate, and Advanced Latin, 9 to 12; Solid Geometry, 9 to 11; Botany, Zoology, Biology, Geology and Economics, 11 to 1; History, 2 to 4; Chemistry, 4 to 5.

The requirements are well-known to the principals of all secondary schools. A detailed statement of the requirements is given in the Appendix.

ADMISSION TO ADVANCED STANDING AND REMOVAL OF CONDITIONS

Students who have taken courses in other accredited dental schools may be admitted to advanced classes upon presenting satisfactory evidence by credentials or by examination that they are qualified.

Examinations to establish this qualification are given at the Medical-Dental Building, on a schedule arranged by the Secretary, and begin on September 6.

Students from other colleges intending to take examinations for admission to advanced standing and those who desire to remove conditions are required to notify the Secretary on or before Tuesday, September 5.

Before taking these examinations each student must register by signing his name on the registration blank provided for the purpose. If a student fails to register in this manner, he will receive no credit for his examination.

OUTLINE OF THE THREE-YEAR COURSE

First Year

First Semester

Operative Technics
Prosthetic Dentistry
Physiology
Oral Prophylaxis
Histology

*Nine hours a week
Nine hours a week
Nine hours a week
Two hours a week
Eight hours a week*

Second Semester

Anatomy	
Operative Technics	<i>Nine hours a week</i>
Prosthetic Dentistry	<i>Nine hours a week</i>
Oral Prophylaxis	<i>Two hours a week</i>

Second Year*First Semester*

Clinical Dentistry (Infirmary)	<i>Six hours a week</i>
Crown and Bridge Work (Lectures and Laboratory)	<i>Six hours a week</i>
General Chemistry (Lectures and Laboratory)	<i>Eight hours a week</i>
Orthodontia (Lectures)	<i>One hour a week</i>
Pathology and Bacteriology (Lectures and Laboratory)	<i>Five hours a week</i>
Prosthetic Dentistry (Laboratory)	<i>Six hours a week</i>

Second Semester

Pharmacology (Lectures)	<i>Eight hours a week</i>
Orthodontia (Lectures)	<i>One hour a week</i>
Operative Dentistry (Lectures)	<i>One hour a week</i>
Clinical Dentistry (Infirmary)	<i>Nine hours a week</i>
Dental Chemistry (Lectures and Laboratory)	<i>Three hours a week</i>
Dental Histology (Lectures and Laboratory)	<i>Three hours a week</i>
Prothetic Dentistry (Laboratory)	<i>Three hours a week</i>

Third Year*First Semester*

Oral Surgery (Lectures)	<i>One hour o week</i>
Clinical Dentistry (Infirmary)	<i>Six hours a week</i>
Prosthetic Dentistry (Laboratory)	<i>Six hours a week</i>
Crown and Bridge Work (Lectures and Laboratory)	<i>Six hours a week</i>
Operative Dentistry (Lectures)	<i>One hour a week</i>
Hygiene (Lectures)	<i>Two hours a week</i>
Orthodontia (Lectures and clinic)	<i>Five hours a week</i>
Oral Prophylaxis (Lectures)	<i>Two hours a week</i>
Clinical Dentistry (Forsyth Infirmary)	<i>Equivalent to one hour a week</i>

Second Semester

Oral Surgery (Lectures)	<i>One hour a week</i>
Clinical Dentistry (Infirmary)	<i>Six hours a week</i>
Prosthetic Dentistry (Laboratory)	<i>Six hours a week</i>
Crown and Bridge Work (Lectures and Laboratory)	<i>Six hours a week</i>
Operative Dentistry (Lectures)	<i>One hour a week</i>
Orthodontia (Lectures and clinics)	<i>Five hours a week</i>
Oral Prophylaxis (Lectures)	<i>Two hours a week</i>
Clinical Dentistry (Forsyth Infirmary)	<i>Equivalent to one hour a week</i>

Description of Three-Year Course of Study

OPERATIVE TECHNICS *

Dr. STROUT

Dr. E. M. BROWN

Dr. H. W. BROWN

Dr. SANDERSON

Instruction in this course will be by lectures, illustrated by models and drawings, and by practical work on the part of the student. The student's work will include the study of the forms of teeth, with carving in ivory; study of the position and form of pulp chambers and canals, with dissection of teeth; proper methods of treating and filling pulp canals, with operations on extracted teeth; porcelain inlay work, with practical examples; also proper methods of forming cavities for filling, and the manipulation of all filling materials.

PROSTHETIC DENTISTRY †

Dr. FARRIS

Dr. EWING

Dr. GALE

Dr. LYDAKIS

Dr. E. J. MORSE

Dr. PETERSON

Dr. SHAW

Dr. VEALE

Particular attention is given to practical manipulation of vulcanite, celluloid, aluminum, and cast metal, for dentures; to gold-plate work, to preparation of plate for continuous gum and the application of continuous gum to crown and bridge work, as well as the construction of gold crowns and bridges. The natural form, color, and arrangement of the teeth, together with the entire range of procedure, from taking the impression to the completion of the case and its proper adjustment in the mouth, are thoroughly demonstrated.

* NOTE.—The operations in the technical departments require a very large number of natural teeth, and a sufficient supply is sometimes difficult to get. It will therefore be to the interest of students if they will bring with them all the extracted teeth they can obtain.

† It has been the custom of the authorities of this School to furnish to the inmates of certain institutions for the aged, etc., artificial teeth and appliances at the cost of materials. Institutions desiring to avail themselves of this privilege should apply to the Department of Prosthetic Dentistry, Tufts College Dental School, Boston, Mass.

PHYSIOLOGY

Dr. ANDREWS

Dr. MACKENZIE

Dr. WHEATLEY

The course in physiology is given throughout the latter half of the first year. It consists of laboratory work, recitations, lectures, demonstrations and conferences.

ORAL HYGIENE

This course includes a series of lectures and practical demonstrations in Oral Prophylaxis during the entire Freshman year. Abundant material for practical demonstrations is always obtainable for the clinical department.

HISTOLOGY

Dr. BATES

Dr. RUBIN

Dr. SPRAGUE

The subject of histology covers the first half of the first year. The work during the first half of the allotted time will be identical with that of the students in the Medical School. This part of the subject covers the study of the elementary tissues, beginning with their origin in the embryo.

Dental Histology. Dental Histology will be taught during the second year. In this connection particular attention will be given to the study of the minute anatomy of the tooth. The development of the teeth will also receive careful treatment.

The department is equipped with microscopes which, on the payment of a small fee, will be at the service of such as cannot furnish instruments of their own.

ANATOMY

Dr. SULLIVAN

Dr. NOLEN

Dr. BURNETT

Dr. HEPBURN

Dr. TYNAN

Dr. CLARKE

Dr. SHERIDAN

Dr. WALKER

Dr. HENDERSON

The course in anatomy is given during the second half of the first year. It consists of lectures recitations and of special demonstrations on the cadaver. In addition, during the first four weeks of the course six hours a week are devoted to section work in Osteology.

CLINICAL DENTISTRY

Dr. JOHNSON

Dr. AINSWORTH

Dr. FARRINGTON

Dr. HOUSTON

Dr. RICE

Dr. BRAGDON

Dr. GETHRO

Dr. REGAN

Dr. BRANIGAN

Dr. GOULET

Dr. RICH

Dr. BRIGGS

Dr. F. E. GRANT

Dr. RISEGARI-GAI

Dr. BULGER

Dr. W. H. GRANT

Dr. RYDER

Dr. CENTERVALL

Dr. GREENE

Dr. SHAY

Dr. CHURCH

Dr. HENDERSON

Dr. SHEDD

Dr. CLEMENT

Dr. LEWIS

Dr. SIMM

Dr. COX

Dr. MACDONALD

Dr. TANNEBRING

Dr. C. H. DAVIS

Dr. MAGUIRE

Dr. VINCENT

Dr. W. S. DAVIS

Dr. METTERS

Dr. WASGATT

Dr. FLYNN

Dr. PETZOLDT

Dr. WHITNEY

Dr. FOX

The method of instruction in clinical dentistry is by clinical lectures to the students of each class, accompanied by practical demonstration of various operations on the teeth and neighboring tissues.

Ample opportunity for work in practical operative dentistry is furnished in this department, and the student by actual practice receives training in the various dental operations, and in the diagnosis and treatment of diseased condition of the mouth and teeth.

For many years it has been the custom of the authorities of this School to furnish to certain charitable and penal institutions qualified dentists for the purpose of alleviating cases of actual suffering. Applications for an extension of this service should be made to the head of the Department of Clinical Dentistry, Tufts College Dental School, Boston, Masss.

CROWN AND BRIDGE WORK

Dr. Keltie

Dr. Beckman

Dr. Cogan

Dr. Dickey

Dr. Wilson

This department is situated on the third floor of the building in a large room equipped with thirty chairs, casting machines, electric motors, electric furnaces for porcelain, compressed air and a general work bench, fitted for stoves, blow pipes and bunsen burners. The junior laboratory is equipped to accommo-

date one hundred and seventy-five students where the Juniors make their specimen cases under a corps of instructors.

In this course the student is prepared by a series of lectures covering all branches of Crown and Bridge work, and is then taken directly into the laboratory where he is obliged to make suitable specimens on an anatomically articulated model.

The specimen work is all done during the Junior year, and prepares the student for the practical work of the Senior year.

In the Senior year the student is afforded ample opportunity for practical work from diagnosis to the completion of cases of all kinds.

GENERAL CHEMISTRY

Dr. PITKIN

Dr. MEHAN

Mr. POPE

The course in General Chemistry consists of descriptive chemistry and qualitative analysis, with so much of theoretical chemistry as is necessary for a proper understanding of the subject.

The classification of the carbon compounds is also taken up at considerable length, and special reference is made to those which are of interest in the study of dentistry. The instruction is by lectures, recitations, and practical work by the students in the laboratory in the first semester of the second year.

Dental Chemistry. During the third year this preliminary training in chemistry is followed by lectures, recitations, and laboratory work in dental chemistry. The metals, with their alloys and salts as used in dentistry, the bones and the teeth, the saliva, and the chemistry of the mouth are studied.

ORTHODONTIA

Dr. DELABARRE

Dr. ALLEN

Dr. DUDDY

Dr. GATES

Dr. PERKINS

Dr. A. L. MORSE

The Junior year is devoted to the theory of normal and malocclusion, history, diagnosis, etiology, technique and uses of appliances, continuing in the Senior year with the practical application

of the principles of orthodontic procedure to the different classes of malocclusion and to actual cases. Each student is required to conduct at least one case, doing all of the work under instruction and supervision.

PATHOLOGY AND BACTERIOLOGY

Dr. TIMOTHY LEARY

Dr. OLGA LEARY

Dr. DUNBAR

Dr. MCCARTHY

Dr. WATSON

Miss FRITZ

Miss PEWS

The subjects of pathology and bacteriology are considered together. This method permits showing the relation of bacteria to the disease processes which they produce. The work will consist of lectures, required laboratory work, and demonstrations. The student is made acquainted with the bacteria of the mouth, and is required to cultivate and study the important organisms. He is expected to carry out experiments to demonstrate the production of artificial caries. The subject of general pathology is thoroughly covered. The special pathology of the mouth, and of the respiratory and intestinal tracts, is given particular attention. Inflammations, especially the infectious types, among which are the lesions produced by the pyogenic bacteria, are carefully considered. The process of repair in soft tissue and bone, and tumors of the mouth and face, are studied from sections of lesions.

PHARMACOLOGY

Dr. F. G. WHEATLEY

Dr. HASKINS

Dr. FUNNELL

Dr. MCCRUDDEN

Dr. CAINES

Instruction in pharmacology consists of lectures, recitations, and laboratory exercises. Special attention is given to the physiological action of drugs, and to the relation always existing between therapeutics, physiology and pathology. The laboratory course is designed to familiarize the student with all medicinal preparations and processes.

Prescription writing receives careful attention and recent additions to *materia medica*, deemed of interest to the dentist are duly considered.

OPERATIVE DENTISTRY

Dr. RICE

In operative dentistry the instruction is both didactic and clinical. Lectures are given covering the whole field, and familiarizing the student with methods, the conditions under which different filling materials are used, and the most approved manipulation of the same. Many lectures are followed by clinics at which attendance is obligatory. Emphasis is placed upon the preparation of cavities for filling. Instruction is further given concerning the pathological conditions of the mouth and the treatment of the same, exposed pulps, inflamed pulps, dead pulps, abscesses, inflammation of the peridental membrane, and allied subjects. Attention is given to the preparation of cavities for porcelain filling.

ORAL SURGERY

Dr. CHENERY

The course in oral surgery consists of a series of lectures. These lectures explain the fundamental facts which should be understood by all students who propose to treat any part of the human body.

Asepsis and anesthesia are discussed, and practically demonstrated in the infirmary. The student is instructed in the administration of ether and of nitrous-oxide gas. In addition to the daily instruction, one morning in each week is devoted wholly to this work, the class being divided into sections. At this weekly demonstration, cases are presented exemplifying the choice of anesthetics. The danger signals of anesthesia are considered, and the proper treatment explained. Local anesthesia receives careful attention, and its limitations are pointed out.

The technique of aseptic and antiseptic methods in dental work is thoroughly explained.

ANESTHESIA AND EXTRACTION

Dr. STROUT

Dr. CANAVAN

The extracting room is supplied with all needful instruments and appliances for extracting teeth and for the performance of the simpler operations in surgery. Ample waiting rooms are adjacent, and also rooms for the care of patients after anesthesia. Administrations of nitrous-oxide gas and ether are made daily. The room is at all times under the personal supervision of the Instructor in Anesthesia.

General Information

TERM EXAMINATIONS

Regular examinations for promotion and for graduation are held at the end of each course.

In all examinations (except those for entrance) each student must register by signing his name on the registration blank provided by the Secretary for that purpose.

At the end of each session a certificate of his standing for the year is sent by mail to each student. No marks will be sent or credit given to any student who is in arrears with the Bursar.

PROMOTION

Students who have passed the requirements for admission and the examinations of the first-year class are, on recommendation of the Faculty, promoted to the second-year class. Similarly, students who have no first-year conditions and have passed their second-year examinations are admitted to the third-year class.

STATE BOARD EXAMINATIONS

Students shall not take State Board Examinations in Dentistry previous to the time of final examinations of the third year, without written permission from the Secretary of the Dental School.

GRADUATION

Before the degree of Doctor of Dental Medicine can be conferred, the candidates must fulfil the following requirements:

1. They must have paid all Dental School charges including the cost of diploma.
2. They must furnish a certificate that they are at least twenty-one years of age.
3. They must have passed all the required examinations, and have performed the required amount of laboratory and clinical work.

4. They must have satisfied the professors of clinical and prosthetic dentistry of their ability to meet satisfactorily the requirements of the profession.
5. They must have attended some accredited dental school for three college years, the last of which must have been at this School.
6. They must be of good moral character.

HONORS

Students who have attended this School for three years, and have obtained an average of ninety per cent. in their first examinations, shall be eligible to "*summa cum laude*," and those who have obtained an average of eighty per cent. shall be eligible to "*cum laude*," and their diplomas are so inscribed.

Degrees are publicly conferred on Commencement Day at Goddard Chapel, Tufts College.

The College reserves the right to accept and retain students as it may elect. Requirements and regulations are subject to change without notice.

DEGREES AND HONORS

1914-1915

Fifty-Ninth Annual Commencement

June 16, 1915

HONORARY DEGREES CONFERRED

Doctor of Laws

William Leslie Hooper

Master of Arts

Mary Stone Bruce

DEGREES CONFERRED IN COURSE

Bachelors of Arts

Lloyd Edgar Aldrich	Maurice Francis Murphy
James Alfred Jeffress	Harold Lionel Pickett
Wilfred Frederick Kelley (<i>summa cum laude</i>)	Henry Benjamin Priest (<i>cum laude</i>)
John Henry Leahy	Benjamin Tonkonow
	Ernest Read Whitcomb

Bachelors of Science

Orrin Freeborn Bathrick	Melvin John Messer, Jr.
Henry Way Burritt	Herbert Edmond Metcalf (<i>extra ordinem</i> as of the Class of 1914)
James Watson Flett	Joseph Chusaku Orito
Herbert Elliott Ingalls (<i>cum laude</i>)	Kenneth Madison Pratt
Samuel Theodore Levethan	William Blaine Richardson (<i>cum laude</i>)
George Archibald Mark (<i>magna cum laude</i>)	Benjamin Alpheus Ward, Jr.
Philip Marzynski	

Bachelors of Science in Chemistry

George William Angell	Joseph Vincent Magee
Maxwell Fish Barnes	Frederick Stanley Morison
William Gooch Brooks	Arthur Welch Phillips
Wilder Adams Chapman	Ralph Oliver Phillips
Carl Frederick Lindstol	Roger Sherman Robbins
Robert Ferdinand Lybeck	Harry Matthew Sullivan
Edmund Stow MacPherson	Donald Hay Whitney

Bachelors of Science in Civil Engineering

Edgar Randolph Comee (<i>summa cum laude</i>)	William Charles Schlotterbeck
Harold Elliot Hadley	John William Shorrock
Francis William Rourke (<i>cum laude</i>)	Reuben Swan (<i>cum laude</i>)
	Paul Barr Wagner

Bachelors of Science in Structural Engineering

Harry Cameron Archibald (<i>summa cum laude</i>)	Albert Mathias Horn
Alan Thurston Danver (<i>summa cum laude</i>)	Raymond Willis Newton (<i>summa cum laude</i>)
Earle Bertram Eldredge	George Wesley Nicoll
	Louis Joseph Walsh (<i>magna cum laude</i>)

Bachelors of Science in Electrical Engineering

Robert Leon Abbott	John Louis Gardella
John Harold Adams	Ralph Dudley Harrington
Ralph Loud Armington (<i>cum laude</i>)	Edwin Augustus Locke
Warren Munroe Fiske (<i>magna cum laude</i>)	Francis Marion Blaisdell Merrithew (<i>summa cum laude</i>)
Raymond Underwood Fittz (<i>cum laude</i>)	Charles Edward Moore
Erving Nelson Fox	Eliot Brewster Moses (<i>magna cum laude</i>)
	Lewis Gleason Webber

Bachelors of Science in Mechanical Engineering

Lester Whiting Ball	Lawrence Emery Scrannage (<i>magna cum laude</i>)
Arthur Gilman Eastman	Herbert Endicott Snow (<i>summa cum laude</i>)
Howard Edwin Grupe (<i>cum laude</i>)	Herbert Theophilus Stanger
Louis Edward Mendelsohn	
Maxfield Pease	Lawrence Howes Teel

Bachelors of Science in Chemical Engineering

Everett James Boothby	James William Harrison
Samuel Paul Dietch (<i>magna cum laude</i>)	Paul George Hinchcliffe
Carl Arshag Garabedian	James Bernard Maguire
	Benjamin Ulin

Bachelors of Sacred Theology

George Archibald Mark	Harold Lionel Pickett
Joseph Chusaku Orito	Clinton Lee Scott, A.B.

Master of Arts

Laura Katherine Johnson (History and Public Law)

Masters of Science

Frederick Otto Aspinwall (Chemistry)

Francis O'Meara (Chemistry)

Harold Richardson Savage (Chemistry)

Honors

Harry Cameron Archibald (Structural Engineering)	Francis Marion Blaisdell Merrithew (Electrical Engineering)
Edgar Randolph Comee (Civil Engineering)	Eliot Brewster Moses (Electrical Engineering)
Alan Thurston Danver (Structural Engineering)	Raymond Willis Newton (Structural Engineering)
Samuel Paul Dietch (Chemical Engineering)	Lawrence Emery Scrannage (Mechanical Engineering)
Warren Munroe Fiske (Electrical Engineering)	Herbert Endicott Snow (Mechanical Engineering)
Wilfred Frederick Kelley (History and Public Law)	Louis Joseph Walsh (Structural Engineering)
George Archibald Mark (English)	

Honorable Mention

Harry Cameron Archibald (Civil Engineering)	Wilfred Frederick Kelley (Political Science)
Ralph Loud Armington (Electrical Engineering)	Francis Marion Blaisdell Merrithew (Mechanical Engineering)
Edgar Randolph Comee (Structural Engineering)	Raymond Willis Newton (Civil Engineering)
Alan Thurston Danver (Civil Engineering)	Henry Benjamin Priest (English)
Raymond Underwood Fittz (Electrical Engineering)	William Blaine Richardson (History and Public Law)
Howard Edward Grupe (Mechanical Engineering)	Francis William Rourke (Civil Engineering)
Herbert Elliott Ingalls (History and Public Law)	Herbert Endicott Snow (Electrical Engineering)
	Reuben Swan (Civil Engineering)

Doctors of Medicine

Winthrop Adams (<i>cum laude</i>)	Joseph Alphonsus Keenan (<i>extra ordinem</i> as of the Class of 1914)
Leon Arthur Alley	Lysander Schaffer Kemp
Harlan Wesley Angier	Harry Koplin (<i>cum laude</i>)
Charles Medville Armstrong	David Dudley Krupp
Carl Bearse (<i>cum laude</i>)	Richard Bliss Leith (<i>cum laude</i>)
Elphege Alcime Geaudet, B.S.	Joseph Michael Lynch (<i>cum laude</i>)
Clarence Harlow Birdsall (<i>cum laude</i>)	Clarence Alden Macomber (<i>cum laude</i>)
Roy Farrington Brown	John Francis Mahoney (<i>cum laude</i>)
John Edward Burns (<i>cum laude</i>)	David Edwin Mann
Alice Etta Ruth Butler (<i>cum laude</i>)	Reginald Dimock Margeson (<i>cum laude</i>)
David Mathew Butler (<i>cum laude</i>)	Charles Daniel McCarthy, Jr.
Malcolm Samuel Campbell	Elsie McClintock (<i>cum laude</i>)
Edwin Gordon Cosby (<i>extra ordinem</i> as of the Class of 1914)	William Aloysius McCormick (<i>extra ordinem</i> as of the Class of 1914)
*Dwight Cowles (<i>extra ordinem</i> as of the Class of 1913)	Chester Francis McGill
Richard Augustine Cunningham	Mary Towler Mernin (<i>cum laude</i>)
Frank Kingsley Dutton (<i>cum laude</i>)	Agnes Catharine Muldoon (<i>cum laude</i>)
Samuel Nathaniel Elkin (<i>extra ordinem</i> as of the Class of 1914)	Mary Theresa Muldoon
Henry Byron Elkind (<i>cum laude</i>)	Harold Alphonsus Murphy (<i>cum laude</i>)
Howard Edward Fobes	John Charles O'Brien, Jr.
Aime Napoleon Fregeau	Jeremiah James Paglia
Garabed Sarkis Ghazarian, A.B. (<i>cum laude</i>)	Vasilios Konstantinos Papavasiliou (<i>cum laude</i>)
John Harold Gooding	Myer Arthur Persky (<i>cum laude</i>)
Tancredi Giovanni Granata	Emily Adelaide Pratt (<i>extra ordinem</i> as of the Class of 1914)
Albert Joseph Grandmaison (<i>extra ordinem</i> as of the Class of 1908)	Thomas Bernard Rafferty
Archibald Forest Green (<i>cum laude</i>)	Anthony Joseph Roderick
Rubin Guralnick (<i>cum laude</i>)	Louis Francis Salerno (<i>cum laude</i>)
Robert Edwin Harney (<i>extra ordinem</i> as of the Class of 1914)	Frank Fishel Sandler
Francis Denbroeder Hart (<i>cum laude</i>)	George Harvey Schwartz (<i>cum laude</i>)
Bernard Charles Healey (<i>extra ordinem</i> as of the Class of 1913)	Philip Allen Shinn
Edward Marshall Hodgkins (<i>cum laude</i>)	Max Silverman (<i>cum laude</i>)
Morris Hornstein	Everett Onslow Thomas
Everett Porter Jewett (<i>cum laude</i>)	Clarence Adelbert Whitcomb (<i>cum laude</i>)
Harry Kaitz (<i>cum laude</i>)	Willard Lyman Wright (<i>cum laude</i>)
William Vincent Kane (<i>cum laude</i>)	

*The degree of M.D. cannot be given to minors.

Doctors of Dental Medicine

Earle Stanley Barton	Harry Clement Lanergan (<i>extra ordinem</i> as of the Class of 1914)
William Michael Bergan	Elie David Langlois
Charles William Berry	Victor Anthony LeBœuf
Chester Kilburn Brown (<i>cum laude</i>)	Frederick Collins Lovejoy
*Samuel Joseph Burke (<i>extra ordinem</i> as of the Class of 1914)	Luke Peter Lydakakis
Warren Charles Caldwell	William Alexander MacPherson (<i>extra ordinem</i> as of the Class of 1914)
Lucius Sterling Carpenter	Charles Leo Maloney
Frederic David Clancy	Robert Milan Mannix
William Joseph Daly	Frederick Allen Mansfield
Davis Bedell Doron	Asadoor Markarian
Roland Sifroy Dumont	James Francis McGrath (<i>extra ordinem</i> as of the Class of 1914)
Arthur Witham Easton (<i>cum laude</i>)	Joseph McKenzie Mercille
Nathaniel Epstein	Arthur Westall Miner
Arthur Wellington Ewing	Isidore Philip Morris
John Benedict Farrell	Martin Walter Neagle
Bernard Neil Farren (<i>cum laude</i>)	Francis Daniel O'Day
Theophylo Ferreira (<i>cum laude</i>)	Richard Joseph O'Donnell
Joseph Leo Ferrin	William Thomas O'Donnell
Victor Fine	Stanley Penney Oliver
Frederick Leo Finnegan	Gerald Bernard O'Neil
Truman Oscar Forsyth	Etienne Paradis, Jr.
Lewis Abbott Francis	Paul Alfred Pitman
Justin Peter Gallagher	Vincent Josephine Pollina
Samuel Gerson	William Isaiah Porell
Martin Francis Gibbons (<i>extra ordinem</i> as of the Class of 1914)	Walter Colburn Robertson
George Goldberg	Catherine Frances Ronan
Clifton Spurling Gould	Frank Harold Ryan
Thomas Francis Greene	Colburn Henry Scott
Harold Lintner Gregory	David Moses Shohet
Loris Colony Halsey	Francisco Lopez De Sousa
Frank Edward Harris	*† Hermon Hanson Stahl (<i>extra ordinem</i> as of the Class of 1914)
Frank Chandler Hayes	Samuel Stahl
William Joseph Heffern	Charles Fraiser Vandervoort
Frederick Gerald Hughes	George William Whichelow
Leon Harry Jacobs	

*The degree of D.M.D. cannot be not given to minors. † Deceased

Jackson College for Women

Bachelors of Arts

Eleanor Bisbee (<i>magna cum laude</i>)	Dorothy Taylor Houghton (<i>cum laude</i>)
Mary Elizabeth Bissell	Gladys Ethlya Keith
Esther Safford Cate (<i>cum laude</i>)	Marian Bill Nichols
Bernice Willette Cragin	Ethel Lorinda Peabody (<i>summa cum laude</i>)
Marion Hill Davis (<i>cum laude</i>)	Alice Cook Pulsifer (<i>summa cum laude</i>)
Ethel May Frizzell (<i>cum laude</i>)	Margaret Siebert
Margaret Hildred Hea (<i>magna cum laude</i>)	Ruth Wallis (<i>summa cum laude</i>)
Gertrude Mellen Hooper	Alice Ruth Welch

Bachelors of Science

Mary Eleonor Cavanaugh (<i>summa cum laude</i>)	Anna Chatfield Knight
Rena Mae Greenwood	Pauline Moyer (<i>magna cum laude</i>)
	Ruth Eliza Seavey (<i>cum laude</i>)

Bachelor of Science in Chemistry

Margaret Tebbetts Fessenden

Honors

Eleanor Bisbee (Philosophy)	Pauline Moyer (English)
Mary Eleonor Cavanaugh (English and Political Science)	Ethel Lorinda Peabody (Latin)
Margaret Hildred Hea (English)	Alice Cook Pulsifer (English)
	Ruth Wallis (English)

Honorable Mention

Esther Safford Cate (English)	Dorothy Taylor Houghton (German)
Mary Eleonor Cavanaugh (History and Philosophy)	Ethel Lorinda Peabody (German)
Marion Hill Davis (History)	Alice Cook Pulsifer (French and History)
Ethel May Frizzell (Mathematics)	Ruth Eliza Seavey (English)
	Ruth Wallis (History)

Commencement Parts

Frederick Leo Finnegan, Cand. D.M.D.: "The Evolution of the Dental Science."

Francis Marion Blaisdell Merrithew, Cand. B.S.: "The Engineer, the Citizen."

Henry Benjamin Priest, Cand. A.B.: "The Natural Function of the College."

Ruth Wallis, Cand. A.B.: "Carlyle's Social Message."

Henry Byron Elkind, Cand. M.D.: "The Rise of Modern Medicine and Surgery."

George Archibald Mark, Cand. S.T.B.: "The Work of the Church in the Changing Civilization."

Diplomas Given Subsequent to June 16, and Prior to December 15, 1915

Doctors of Medicine

(*Extra ordinem* as of the Class of 1915)

Thomas Matthew Barry
Myer Aaron Fleeter
Harold Russell Green
John Greenwood Jennings

Simon Bartholomew Kelleher
Charles Elmer Magoun
Thomas Christopher Quirk
Leroy Danforth Whitney

Doctor of Dental Medicine

(*Extra ordinem* as of the Class of 1915)

* Joseph Harold Cohen
* Cranston Franklin Godfrey, Jr.

* The degrees of M.D. and D.M.D. cannot be given to minors.

Awards of Prizes 1914-1915

Scholarship of the Class of 1882

Henry Alexander Stafford

Scholarship of the Class of 1898

Christine Blanche Noyes

Greenwood Prize Scholarship in Oratory

Elbert Wilder Whippen

Goddard Prize in French

Alice Mae Cotton

Goddard Prize in Chemistry

Bertram Emanuel Green

Goddard Prize in Homiletics and Oratory

John Nicol Mark

Moses True Brown Scholarship

Sidney Hertz Weiner

Alpha Omicron Pi Scholarship

Alice Mae Cotton

Alpha Xi Delta Scholarship

Christine Blanche Noyes

Chi Omega Scholarship

Ruth Burbank

Rhetorical Prizes*First Prize*

Leonard Alexander Rice

Second Prize

Harold Lionel Pickett

Third Prize

Jesse Moses Aronson

REGISTER OF STUDENTS

Students Enrolled in Tufts College

1915-16

[In the following list the course pursued by each student is indicated by the *Italic* letters immediately following the name. The signs used are as follows: courses leading to the degree of A.B., *ab*; to the degree of B.S., *bs*—in Civil Engineering, *ce*; in Structural Engineering, *ste*; in Electrical Engineering, *ee*; in Mechanical Engineering, *me*; in Chemical Engineering, *che*. For the first two years in the Engineering School no differentiation is made.

The third column records the home address, which is in Massachusetts unless stated to be elsewhere. The fourth column gives the address at Tufts College, unless the street is printed in *Italics*, in which case it is a part of the home address.]

School of Liberal Arts

Senior Class

Allen, Windom Alpheus	<i>bs Dalton</i>	A T Ω House
Brown, James Lawrence, Jr.	<i>bs Somerville</i>	Commons Club
Claff, Elmer Louis	<i>bs Everett</i>	East, 5
Donnellan, Arthur Vincent	<i>bs W. Medford</i>	30 Lincoln St.
Flagg, Frederick Potter	<i>bs Waltham</i>	20 Floyd St.
Foster, Francis Joel	<i>ab Danbury, Conn.</i>	Φ Δ House
French, Herbert Moulton	<i>ab Waltham</i>	Δ T House
Gaskin, William	<i>ab Derry, N. H.</i>	Paige, 13
Gore, Edward Watson	<i>ab W. Medford</i>	45 Brooks St.
Jenkinson, Egbert William Ashford	<i>bs Brookline</i>	Δ T House
Loomis, Samuel	<i>bs Bedford</i>	Paige, 26
McJannet, Donald Ross	<i>bs Medford</i>	1 Curtis Place
Morrison, Arthur Winchester	<i>bs Medford</i>	Δ T House
Nellis, Aubrey Irving	<i>bs Roslindale</i>	West, 8
Nixon, Alexander Clifford	<i>bs Detroit, Mich</i>	Δ T House
Patterson, Richard	<i>ab Morgantown, W. Va.</i>	Dean, 5
Pollack, Israel Jacob	<i>bs Boston</i>	1 Revere St. Place
Reed, Everett Lenox	<i>bs Somerville</i>	100 Jacques St.
Roche, Harold Francis	<i>bs South Boston</i>	34 F St.
Shapiro, Frank Simon	<i>bs E. Boston</i>	West, 31
Smith, Richard Ilsley	<i>bs Auburn, Me.</i>	Dean, 9
Spencer, Clayton Cree	<i>bs Barre, Vt.</i>	West, 16
Stafford, Henry Alexander	<i>bs Orleans, Vt.</i>	Θ Δ X House
Staples, Carl Weston	<i>bs Everett</i>	17 Lexington St.
Starkweather, Courtney Nash	<i>bs Plainfield, N. J.</i>	Dean, 12
Swenson, Albert Walter	<i>ab Medford</i>	47 Newbern Ave.
Tennis, Max	<i>bs Boston</i>	West, 26
Town, Cecil Benton	<i>bs Boston</i>	Φ Δ I House
Wilson, Earl Snow	<i>bs Hyannis</i>	Δ T House

Junior Class

Anderson, Carl Oscar	ab	<i>S. Manchester, Conn.</i>	Δ T House
Armstrong, Herbert Eustace	bs	<i>Cambridge</i>	Δ T Δ House
Ball, Leon Eugene	bs	<i>So. Berwick, Me.</i>	Θ Δ X House
Bisbee, John Bancroft	bs-bd	<i>Arlington Heights</i>	Paige, 31
Borden, Karl Bigelow	bs	<i>Collinsville, Conn.</i>	East, 1
Bratt, Albert Verner	bs	<i>Everett</i>	Δ T Δ House
Carro, Leon Julius	ab	<i>Beachmont</i>	West, 6
Collins, Harold Edward	bs	<i>Haverhill</i>	East, 34
Crosby, Philip Barker	bs	<i>Methuen</i>	Θ Δ X House
Cross, Julian Richard	bs	<i>Hingham Center</i>	Σ T A House
Curtin, Francis Gregory	bs	<i>Medford</i>	93 Governor's Ave.
Davies, Roland Crocker	ab	<i>Tufts College</i>	72 Professors Row
Fuller, George Lester	ab	<i>Braintree</i>	Dean, 9
Hart, Clarence Dunbar	ab	<i>W. Somerville</i>	35 Charnwood Rd.
Hewitt, Earl Smith	ab	<i>So. Royalton, Vt.</i>	Dean, 12
Hurley, Harold Francis	bs	<i>Malden</i>	88 Hubbard St.
Jones, Herman Wentworth	bs	<i>W. Somerville</i>	20 Winslow Ave.
Lamont, Arthur Lindley	ab	<i>W. Somerville</i>	13 Conwell Ave.
Mark, John Nicol	bs-bd	<i>Glasgow, Scotland</i>	Paige, 18
Mark, Thomas Montgomery	ab-bd	<i>Glasgow, Scotland</i>	Paige, 18
Marrow, Oscar Earl	bs	<i>Ossipee, N. H.</i>	West, 3
Mohor, Albert John	bs	<i>Newton Center</i>	East, 25
Morison, Norman Webster	bs	<i>West Somerville</i>	Δ T House
Murphy, Leo Thomas	bs	<i>Somerville</i>	Σ T A House
Penaligan, James Henry	bs	<i>Winchester</i>	West, 3
Poole, Joseph Ellsworth	bs	<i>Dover</i>	West, 14
Potash, Philip	bs	<i>Boston</i>	48 Billerica St.
Proctor, William Harrison	bs	<i>Jackson, N. H.</i>	Φ Δ House
Reed, Arthur Bryant	bs	<i>Claremont, N. H.</i>	Δ T House
Ryan, Frederick Lynne	bs	<i>Denair, Calif.</i>	Paige, 31
Scamman, William Merrill	bs	<i>Lexington</i>	76 Bedford St.
Sefton, Archibald Kyle	bs	<i>Tufts College</i>	93 Capen St.
Spunt, William	bs	<i>Winthrop</i>	Dean, 7
Stanton, Charles Ingram	bs	<i>Revere</i>	East, 30
Sweet, Walter Prescott	bs	<i>W. Somerville</i>	Δ T House
Symmes, Leland Parker	bs	<i>Beverly</i>	A T Ω House
Towne, Lester Newton	bs	<i>Andover</i>	Commons Club
Watson, Barron Crowell	bs	<i>Bernard, Me.</i>	Θ Δ X House
Whippen, Elbert Wilder	ab-bd	<i>Kingston, N. H.</i>	Paige, 25
Wiggin, Sidney Cushing	bs	<i>Roxbury</i>	Δ T Δ House
Williams, Harold Jenkin	bs	<i>Quincy</i>	107 Common St.

Sophomore Class

Anderson, Herbert Keith	<i>bs</i>	<i>Milford, N. H.</i>	Θ Δ X House
Collins, George William	<i>bs</i>	<i>Medford</i>	Φ Δ House
Barbara, Charles Albert	<i>bs</i>	<i>Port Chester, N. Y.</i>	
		3 Wallace St., W. Somerville	
Bartlett, Howard Searles	<i>ab</i>	<i>Roxbury</i>	West, 4
Bresnick, Barnet	<i>bs</i>	<i>Dorchester</i>	54 Stanwood St.
Brown, William Thomas	<i>bs</i>	<i>Bondsville</i>	East, 18
Burns, Edward Gregory	<i>ab</i>	<i>Taunton</i>	West, 7
Cameron, Daniel Clarence	<i>bs</i>	<i>Arlington</i>	Δ T Δ House
Campbell, Alan Bailey	<i>ab</i>	<i>Dorchester</i>	East, 29
Coffey, Daniel Lorden	<i>ab</i>	<i>Medford</i>	38 Touro Ave.
Coussoule, Loukas Nicholas	<i>ab</i>	<i>Sparta, Greece</i>	
		98 Curtis St., W. Somerville	
Davis, Philip Sidney	<i>bs</i>	<i>Somerville</i>	50 Mt. Vernon St.
Ellis, William	<i>bs</i>	<i>Roxbury</i>	8 Cunard St.
French, Winslow Hall	<i>bs</i>	<i>Waltham</i>	East, 26
Geddes, James Gardner	<i>bs</i>	<i>Somerville</i>	88 Munroe St.
Geer, James Clifford	<i>bs</i>	<i>Three Rivers</i>	A T Ω House
Given, Minott Denham	<i>bs</i>	<i>Melrose</i>	147 First St.
Goldberg, Bernard Isadore	<i>bs</i>	<i>Roxbury</i>	West, 31
Golden, Benjamin Ira	<i>ab</i>	<i>Elkins, W. Va.</i>	Dean, 7
Gordon, Israel	<i>bs</i>	<i>Boston</i>	330 Harrison Ave.
Green, Bertram Emanuel	<i>bs</i>	<i>Malden</i>	390 Salem St.
Hunnewell, Roger	<i>ab</i>	<i>W. Somerville</i>	Θ Δ X House
Lalor, Daniel Edward Coffey	<i>bs</i>	<i>Watervliet, N. Y.</i>	East, 18
Lane, Franklin Johnson	<i>bs</i>	<i>Winchester</i>	Dean, 13
Marsh, Carl Alphonso	<i>bs</i>	<i>Brattleboro, Vt.</i>	Δ T House
McKenzie, William Forbes	<i>bs</i>	<i>Thorndike</i>	A T Ω House
McNamee, Albert Percy	<i>bs</i>	<i>Belmont</i>	East, 15
Mendum, Willis Clark	<i>ab</i>	<i>Woburn</i>	16 Arlington Rd.
Miller, Herbert Dwight	<i>bs</i>	<i>Tufts College</i>	West, 16
Morison, Trueman Greene	<i>bs</i>	<i>W. Somerville</i>	East, 15
Peck, Howard Bennett	<i>bs</i>	<i>Bridgewater, Conn.</i>	East, 19
Porter, Russell Woods	<i>bs</i>	<i>Springfield</i>	Dean, 10
Pryor, Paul Lawrence	<i>bs</i>	<i>Revere</i>	Σ T A House
Reed, Alfred Smith	<i>bs</i>	<i>Roslindale</i>	Z Ψ House
Rice, Leonard Alexander	<i>ab</i>	<i>Somerville</i>	51 Avon St.
Rood, George Wilson	<i>ab</i>	<i>W. Somerville</i>	
		200 Powder House Blvd.	
Sample, Dirrell Daniel	<i>bs</i>	<i>Strong, Me.</i>	Φ Δ House
Smith, John Blackmer	<i>bs</i>	<i>Williamstown, Vt.</i>	West, 16
Swartz, Jacob Hyams	<i>bs</i>	<i>Dorchester</i>	84 McLellan St.

Teele, Kenneth Robert	<i>bs</i>	<i>San Juan, P. R.</i>	Δ T Δ House
Weiner, Sidney Hertz	<i>bs</i>	<i>Boston</i>	50 Allen St.
Weisberg, Max	<i>bs</i>	<i>Boston</i>	22 Parkman St.
Wheeler, Arthur Gates	<i>bs</i>	<i>Stow</i>	Δ T Δ House

Freshman Class

Amoroso, Victor Louis	<i>ab</i>	<i>Natick</i>	East, 20
Ayers, Charles Frank	<i>bs</i>	<i>Everett</i>	101 Chestnut St.
Baird, Arthur Earl	<i>bs</i>	<i>South Boston</i>	Paige, 22
Barrows, Wendell Parsons	<i>bs</i>	<i>Waltham</i>	101 Alder St.
Beacham, Earl Shepard	<i>bs</i>	<i>Poughkeepsie, N. Y.</i>	East, 4
Beattie, Ralph	<i>ab</i>	<i>North Andover</i>	East, 24
Beyer, Samuel H.	<i>bs</i>	<i>Roxbury</i>	127 Howland St.
Bouvé, Howard Allston	<i>bs</i>	<i>Wakefield</i>	East, 13
Breau, Leo John	<i>ab</i>	<i>N. Cambridge</i>	81 Orchard St.
Brewer, John Warren	<i>bs</i>	<i>Hingham</i>	Crow Point
Brookings, Roydon Fall	<i>bs</i>	<i>West Medford</i>	48 Holton St.
Chapman, Samuel	<i>bs</i>	<i>Marblehead</i>	West, 29
Claff, Philip Frederic	<i>bs</i>	<i>Malden</i>	West, 1
Coddington, Philip Littlefield	<i>bs</i>	<i>Berlin, N. H.</i>	Dean, 11
Cohen, Edward Israel	<i>ab</i>	<i>Roxbury</i>	25 Hutchings St.
Cooke, Arthur Burrell	<i>bs</i>	<i>Waltham</i>	East, 10
Cox, Henry Eugene	<i>ab</i>	<i>East Wakefield, N. H.</i>	East, 7
Crocker, Willard Frederick	<i>bs</i>	<i>Quincy</i>	West, 4
Crockett, David	<i>ab</i>	<i>Arlington Heights</i>	15 Wachusett St.
Cronin, George Francis	<i>bs</i>	<i>Malden</i>	252 Highland Ave.
Cronin, George Robert	<i>bs</i>	<i>South Boston</i>	Φ Δ House
Cutter, Edward Russell	<i>ab</i>	<i>Arlington</i>	167 Summer St.
Cutting, Ralph Curtis	<i>bs</i>	<i>Cambridge</i>	375 Broadway
Davison, John Purley	<i>ab</i>	<i>North Billerica</i>	West, 19
Doherty, Gerald Leo	<i>bs</i>	<i>Dorchester</i>	West, 30
Eaton, Joseph Ashley	<i>bs</i>	<i>Rutland, Vt.</i>	East, 23
Erken Brack, Kenneth Beresford	<i>bs</i>	<i>Brooklyn, N. Y.</i>	
Evans, Percy Griffith	<i>ab</i>	<i>East Saugus</i>	61 Lincoln Ave.
Eveleth, George Simmonds, Jr.	<i>bs</i>	<i>Little Falls, N. Y.</i>	East, 24
Farley, Albert Leo	<i>bs</i>	<i>Boston</i>	76 Alleghany St.
Fernald, James Merrill	<i>ab</i>	<i>Fitchburg</i>	Whalom Park
Finn, Julius Gerstein	<i>bs</i>	<i>Roxbury</i>	41 Georgia St.
Friis, Jan Trap	<i>bs</i>	<i>Medford</i>	Z Ψ House
Frost, Roland Torrey	<i>ab</i>	<i>Belmont</i>	306 Pleasant St.
Garabedian, Harold Arsen	<i>bs</i>	<i>Dorchester Center</i>	East, 32
Gifford, Winfred Bradford	<i>bs</i>	<i>Dorchester</i>	18 Plain St.
Goldfine, Albert	<i>bs</i>	<i>Boston</i>	35 Village St.

Gould, Douglas Warren	<i>bs</i>	<i>Malden</i>	Φ Δ I House
Gruber, Barnet	<i>bs</i>	<i>Boston</i>	77 <i>Phillips St.</i>
Guberman, Philip	<i>bs</i>	<i>Boston</i>	20 <i>Garden St.</i>
Hammond, Leigh Hunt	<i>bs</i>	<i>West Newton</i>	Α Τ Ω House
Harper, Frederick Lawrence	<i>bs</i>	<i>Chelsea</i>	118 <i>Bellingham St.</i>
Henrich, Karl Raymond	<i>ab</i>	<i>Orange</i>	West, 32
Hill, Kenneth Rogers	<i>bs</i>	<i>Peabody</i>	Commons Club
Holland, Thomas Patrick	<i>bs</i>	<i>Milford, N. H.</i>	East, 22
Howard, George Arthur	<i>bs</i>	<i>Balboa, Canal Zone</i>	96 <i>Oxford St., Somerville</i>
Isaac, Edward John	<i>bs</i>	<i>Brighton</i>	28 <i>Richardson St.</i>
Israel, Arthur Joshua	<i>bs</i>	<i>Meriden, Conn.</i>	West, 32
Jeffery, Madison Peters	<i>ab</i>	<i>Malden</i>	5 <i>Arlington Terrace</i>
Leach, Edgar Percy	<i>bs</i>	<i>Methuen</i>	East, 13
Lebowich, Richard Jacob	<i>bs</i>	<i>Dorchester</i>	122 <i>Quincy St.</i>
Lewis, Philip Bullard	<i>bs</i>	<i>Tufts College</i>	20 <i>Professors Row</i>
MacLeod, Earle Harvey	<i>bs</i>	<i>Cliftondale</i>	East, 7
Mahan, Stephen Charles	<i>ab</i>	<i>Manchester, N. H.</i>	East, 6
Malone, James Francis	<i>ab</i>	<i>Dorchester</i>	West, 2
Marcus, Saul Maurice	<i>bs</i>	<i>Lynn</i>	73 <i>Rockaway St.</i>
May, William Henry	<i>bs</i>	<i>Cambridge</i>	336 <i>Harvard St.</i>
McClench, Donald	<i>bs</i>	<i>Springfield</i>	Dean, 11
McKenna, Hugh Steele	<i>bs</i>	<i>Meriden, Conn.</i>	East, 31
Messer, Theodore Powers	<i>bs</i>	<i>Somerville</i>	West, 12
Nash, Louis Edward	<i>bs</i>	<i>Allston</i>	9 <i>Mansfield St.</i>
Nathanson, Robert Bernard	<i>bs</i>	<i>Boston</i>	8 <i>Parkman St.</i>
O'Keefe, David Charles	<i>bs</i>	<i>Revere</i>	76 <i>Central Ave.</i>
Olson, Orvid Leonard	<i>bs</i>	<i>Somerville</i>	28 <i>Gibbens St.</i>
Quint, Arthur	<i>bs</i>	<i>Malden</i>	Dean, 4
Quint, Samuel Theodore	<i>bs</i>	<i>Malden</i>	Dean, 4
Richardson, Ernest Henry	<i>bs</i>	<i>Medford</i>	16 <i>Florence St.</i>
Riley, William Andrew	<i>bs</i>	<i>Milton</i>	196 <i>Blue Hill Parkway</i>
Rogers, Harold Arthur	<i>bs</i>	<i>W. Somerville</i>	39 <i>Paulina St.</i>
Roman, John Baptiste	<i>bs</i>	<i>Charlestown</i>	42 <i>Winthrop St.</i>
Ropes, Lawrence Goodhue	<i>ab</i>	<i>Salem</i>	West, 3
Ruddy, Hiram Richard	<i>bs</i>	<i>Watervliet, N. Y.</i>	East, 39
Ruggeri, Samuel	<i>bs</i>	<i>So. Boston</i>	77 <i>Dorchester St.</i>
Scheinfain, Samuel Solomon	<i>bs</i>	<i>Malden</i>	121 <i>Tremont St.</i>
Schenk, Harold Louis	<i>ab</i>	<i>Wheeling, W. Va.</i>	West, 28
Scott, Carroll Edward	<i>ab</i>	<i>Farmington, N. H.</i>	Δ T House
Seaver, John Gilman	<i>bs</i>	<i>Woburn</i>	Paige, 1
Segel, Abram	<i>bs</i>	<i>Melrose</i>	391 <i>Pleasant St.</i>
Solomon, Samuel Alexander	<i>bs</i>	<i>Dorchester</i>	6 <i>Lena Park</i>

Stearns, Milton Sprague	<i>bs Belmont</i>	64 Goden St.
Stevens, Donald Bartlett	<i>bs Tufts College</i>	96 Packard Ave.
Stilphen, Mortimer Bullard	<i>ab Swanton, Vt.</i>	East, 6
Stroehmann, Carl Frederick	<i>bs Wheeling, W. Va.</i>	West, 28
Symmes, Marshall Wyman	<i>bs Winchester</i>	251 Main St.
Tyler, Maurice Leslie	<i>bs W. Medford</i>	Z Y House
Tyler, Philip Palmer	<i>bs Brighton</i>	Dean, 8
Warren, Lowell Alfred	<i>bs Waltham</i>	30 Prospect St.
Whitcomb, Lyman Wells	<i>ab Barre, Vermont</i>	West, 16
Whitmore, James Russell	<i>bs Mt. Morris, N. Y.</i>	Θ Δ X House
Williams, Allton Thomas	<i>ab Revere</i>	381 Broadway
Winer, Hyman William	<i>bs Dorchester</i>	12 Drummond St.
Winston, Frank Thomas	<i>bs E. Boston</i>	53 St. Andrew Rd.
Wood, Ralph Peirce	<i>bs Everett</i>	Φ Δ House

Unclassified Students

Bentley, John Melvin	<i>bs W. Newton</i>	Commons Club
Boland, Benedict Fenwick	<i>ab Worcester</i>	East, 17
Crenner, John Herbert	<i>ab Somerville</i>	61 Adams St.
Eaton, Roland Leonard	<i>ab Sebasco, Me.</i>	Z Ψ House
Johnson, Winthrop Mann	<i>bs Natick</i>	5 Concord St.
Mah, Wai Sun	<i>bs Canton, China</i>	19 Fairmount St.
Minevitch, Joseph Rozart	<i>bs Boston</i>	337 Charles St.
Sault, Raymond Gerry	<i>bs Somerville</i>	4 Walter St.
Williams, Richard Joseph	<i>bs Lynn</i>	East, 27

Special Student

Wheaton, Donald Whitney	<i>Wellesley</i>	Paige, 20
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II. *History*

Supplementary List

(Students present during 1914-15, but not appearing in the catalogue)

Stearns, Milton Sprague	<i>bs Belmont</i>	64 Goden St.
Stevens, Donald Bartlett	<i>bs Tufts College</i>	96 Packard Ave.

Jackson College for Women

Senior Class

Burbank, Ruth	<i>ab</i>	<i>Lynn</i>	Start, 1
Chipman, Lucille Horton	<i>ab</i>	<i>Provincetown</i>	Metcalf, A
Cotton, Alice Mae	<i>ab</i>	<i>Arlington 1054 Massachusetts Ave.</i>	
Cragin, Margaret	<i>ab</i>	<i>West Somerville 48 Meacham Rd.</i>	
Cutler, Dorothy Bascom	<i>ab</i>	<i>East Jaffrey N. H.</i>	Richardson, 6
Duffey, Pauline	<i>ab</i>	<i>Medford</i>	Metcalf, 6
Gardner, Mary Violetta	<i>ab</i>	<i>Del Mar, California</i>	Metcalf, C
Hall, Marion	<i>ab</i>	<i>Salem Depot, N. H.</i>	Metcalf, 1
Hamilton, Beulah Myrtle	<i>ab</i>	<i>Portland, Me.</i>	Richardson, 3
Harrington, Isabel	<i>ab</i>	<i>Medford</i>	32 Pearl St.
Hart, Dorothy	<i>ab</i>	<i>Medford</i>	Metcalf, 7
Matheson, Mabel Knowles	<i>ab</i>	<i>Provincetown</i>	Metcalf, C
Noyes, Christine Blanche	<i>ab</i>	<i>Lexington</i>	5 Tewkesbury St.
Osborn, Emilie Poor	<i>bs</i>	<i>Peabody</i>	Metcalf, 8
Piper, Lydia Josephine	<i>ab</i>	<i>S. Biddeford, Me.</i>	Start, 4
Wood, Bernice Ethel	<i>bs</i>	<i>Charlestown</i>	Richardson, 5

Junior Class

Bixby, Madeleine	<i>bs</i>	<i>North Andover</i>	Start, 4
Cochran, Margaret	<i>bs</i>	<i>Medford</i>	34 Hancock St.
Cogswell, Almena	<i>ab</i>	<i>Winchester</i>	Richardson, 10
Crocker, Helen Beatrice	<i>bs</i>	<i>Portland, Me.</i>	Metcalf, 4
Dean, Marjorie Grace	<i>bs</i>	<i>Winthrop</i>	Start, 6
Hagerty, Aileen Alberta	<i>ab</i>	<i>Woburn</i>	66 Arlington Rd.
Higgins, Helen Beatrice	<i>ab</i>	<i>Andover</i>	Metcalf, 13
Jameson, Helen Marion	<i>ab</i>	<i>Brookline</i>	Metcalf, B
Jeffers, Madeline	<i>bs</i>	<i>Chelsea</i>	Metcalf, 7
Keir, Avis Jeannette	<i>ab</i>	<i>Craftsbury, Vt.</i>	Richardson, 1
Parshley, Esther	<i>ab</i>	<i>Winchester</i>	Richardson, 9
Pease, Dorothy	<i>ab</i>	<i>Tufts College</i>	205 College Ave.
Rowe, Helen Almira	<i>ab</i>	<i>Winchester</i>	20 Vine St.
Simpson, Mildred Brooks	<i>bs</i>	<i>Winthrop</i>	Metcalf, 14
Wheet, Geneva Alice	<i>ab</i>	<i>Bristol, N. H.</i>	Metcalf, 14
Young, Priscilla Bertha	<i>ab</i>	<i>Exeter, N. H.</i>	Metcalf, 15

Sophomore Class

Briggs, Katherine Emma	<i>ab</i>	<i>W. Medford</i>	150 Arlington St.
Clark, Esther Belle	<i>ab</i>	<i>Tufts College</i>	11 Adams St.
Crosby, Genevieve	<i>ab</i>	<i>Hingham</i>	Metcalf, 11
Crowell, Ruth	<i>ab</i>	<i>Tufts College</i>	44 Adams St.
Danver, Anna Dorothea	<i>ab</i>	<i>Glenbrook, Conn.</i>	Metcalf, 10

Davies, Jane Stodder	<i>ab</i>	<i>Tufts College</i>	72 Professors Row
Deasy, Ella Marie	<i>ab</i>	<i>Chelsea</i>	98 Grove St.
Durkee, Margaret	<i>ab</i>	<i>Tufts College</i>	38 Professors Row
Ferris, Julie Marguerite	<i>ab</i>	<i>Medford</i>	15 Stoughton St.
Foster, Alice Frances	<i>ab</i>	<i>Winchester</i>	Metcalf, 3
Gilbert, Eleanor Carrie	<i>ab</i>	<i>Bloomfield, N. J.</i>	Start, 5
Glass, Ellen Melissa	<i>bs</i>	<i>Lexington</i>	
		11 Endicott Ave., Somerville	
Morse, Laura Lucile	<i>ab</i>	<i>Arlington</i>	41 Brantwood Rd.
Newcomb, Bertha May	<i>bs</i>	<i>Portland, Me.</i>	Metcalf, 10
Nickerson, Muriel Nathalie	<i>ab</i>	<i>Chelsea</i>	139 Washington Ave.
Perkins, Madeline Abby	<i>bs</i>	<i>Lynn</i>	Metcalf, 16
Raymenton, Marion Ward	<i>ab</i>	<i>Cavendish Vt.</i>	Richardson, 3
Sargent, Elizabeth Tilton	<i>ab</i>	<i>Winter Hill</i>	Start, 1
Semons, Gladys Milford	<i>ab</i>	<i>Manchester</i>	Metcalf, 3
Sibley, Helen	<i>ab</i>	<i>Tilton, N. H.</i>	Metcalf, 13
Wonson, Isabelle	<i>bs</i>	<i>Fall River</i>	
		44 Liberty Ave., W. Somerville	

Freshman Class

Bremner, Elsie Macdonald	<i>ab</i>	<i>W. Somerville</i>	17 Russell Rd.
Brooks, Ruth Elvira	<i>ab</i>	<i>W. Medford</i>	40 Warren St.
Bullard, Cecelia	<i>ab</i>	<i>W. Somerville</i>	21 Kidder Ave.
Clarke, Geraldine Kendall	<i>ab</i>	<i>Malone, N. Y.</i>	Metcalf, 9
Cole, Ruth Jeanette	<i>ab</i>	<i>Everett</i>	173 Broadway
Dacey, Mildred Anna	<i>bs</i>	<i>Lexington</i>	18 Muzzey St.
Glawson, Mildred Burton	<i>bs</i>	<i>Somerville</i>	277 Medford St.
Goldshine, Meriam	<i>bs</i>	<i>Everett</i>	12 Bailey St.
Hagney, Mary Louise	<i>bs</i>	<i>Randolph</i>	Richardson, 4
Harmon, Doris	<i>ab</i>	<i>Dorchester</i>	12 Saxton St.
Haynes, Gertrude May	<i>bs</i>	<i>Maynard</i>	Metcalf, B
Hill, Marion Calvin	<i>ab</i>	<i>Dorchester</i>	5 Carmen St.
Hinckley, Hilda	<i>ab</i>	<i>Hyannis</i>	Start, 3
Hyland, Mildred Elizabeth	<i>ab</i>	<i>Everett</i>	Metcalf, 2
Joel, Edith Marion	<i>ab</i>	<i>Fitchburg</i>	Metcalf, 4
Kimball, Margaret	<i>ab</i>	<i>Dorchester</i>	Start, 7
Lewis, Elisabeth Payne	<i>bs</i>	<i>Tufts College</i>	Richardson, 11
Lewis, Helen Maria	<i>bs</i>	<i>Tufts College</i>	Richardson, 11
Little, Inga	<i>bs</i>	<i>Laconia, N. H.</i>	Metcalf, 6
Mansfield, Nellie Birkenhead	<i>ab</i>	<i>Everett</i>	73 Baldwin Ave.
Marland, Laura Northey	<i>ab</i>	<i>Ballard Vale</i>	Chester St.
McCoy, Dorothy Mary	<i>ab</i>	<i>Somerville</i>	62 Main St.
Miller, Elizabeth Stannard	<i>ab</i>	<i>Ivoryton, Conn.</i>	Richardson, 4

Miller, Gertrude Allan	<i>bs</i>	<i>New York City</i>	Richardson, 8
Moody, Beulah Borden	<i>ab</i>	<i>Chelsea</i>	76 Grove St.
Neal, Martha Catharine	<i>ab</i>	<i>Derry, N. H.</i>	Metcalf, 12
Parker, Madeline Lucille	<i>bs</i>	<i>Dorchester</i>	Start, 7
Rich, Mary Lindsey	<i>ab</i>	<i>N. Grosvenor Dale, Conn.</i>	Metcalf, 2
Richardson, Ethel Wheeler	<i>ab</i>	<i>Medford</i>	16 Florence St.
Rockwell, Doris	<i>bs</i>	<i>Somerville</i>	133 Powder House Blvd.
Rooney, Margaret Mary	<i>bs</i>	<i>W. Roxbury</i>	Richardson, 2
Sherburne, Grace Noerr	<i>ab</i>	<i>Melrose</i>	100 E. Emerson St.
Sundelöf, Karin C.	<i>ab</i>	<i>Roxbury</i>	88 Moreland St.
Tasker, Lorna Bernay	<i>ab</i>	<i>Manchester, N. H.</i>	86 Bromfield Rd., W. Somerville
Tillotson, Beulah Susie	<i>bs</i>	<i>Montpelier, Vt.</i>	55 High St., Everett
Trott, Marian Everson	<i>ab</i>	<i>Winchester</i>	Richardson, 10
Ware, Kennetha Marguerite	<i>bs</i>	<i>Tufts College</i>	101 Capen St.
Wheeler, Isabelle Martha	<i>ab</i>	<i>Everett</i>	129 Glendale St.
Wiltshire, Bertha May	<i>ab</i>	<i>Medford</i>	112 Dudley St.
Yerrinton, Margaret Johnston	<i>ab</i>	<i>Arlington</i>	59 Jason St.

Special Students

Rockwell, Dorothy	<i>Somerville</i>	133 Powder House Blvd.
I. <i>French</i>		
Thompson, Elva	<i>Winthrop</i>	815 Shirley St.
I. <i>English</i>		

Unclassified Student

Lewis, Grace Melden	<i>ab</i>	<i>W. Somerville</i>	44 Kidder Ave.
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Engineering School

Senior Class

Brett, Roy Cuming	<i>me</i>	<i>S. Braintree</i>	40 Summer St.
Coleman, Thomas Christopher, Jr.	<i>me</i>	<i>W. Somerville</i>	29 Chandler St.
Dalton, George Alonzo	<i>ch e</i>	<i>W. Somerville</i>	West, 15
Davis, Chester Thomas Caverly	<i>st e</i>	<i>Wolfeboro, N. H.</i>	Φ Δ House
Dempsey, Nelson William	<i>ch e</i>	<i>Stoneham</i>	Commons Club
Ellis, Frederick Joseph	<i>me</i>	<i>Danvers</i>	Commons Club
Esten, Edwin Chandler	<i>me</i>	<i>Littleton</i>	West, 15
Fairbank, John William	<i>me</i>	<i>Cambridge</i>	A T Ω House
Garde, Leslie Eames	<i>me</i>	<i>Lynn</i>	155 Shepard St.
Hall, Edward Franklin	<i>ee</i>	<i>Lynn</i>	Z Ψ House
Halpin, Henry Edward	<i>ce</i>	<i>Somerville</i>	Φ Δ House
Hamilton, Harold Sylvester	<i>ee</i>	<i>Clifondale</i>	Σ T A House
Hunt, Everett Currie	<i>st e</i>	<i>Somerville</i>	Σ T A House
Jameson, Charles Franklin	<i>ch e</i>	<i>W. Somerville</i>	37 Lowden Ave.
Katz, Henry Leon	<i>ce</i>	<i>Malden</i>	West, 26
Keyes, William Arthur	<i>st e</i>	<i>Lynn</i>	Σ T A House
Lee, Cedric Crandon	<i>ch e</i>	<i>Everett</i>	Z Ψ House
Pennucci, Conrad	<i>ce</i>	<i>East Boston</i>	115 Neptune Ave.
Powers, Clinton Russell	<i>ch e</i>	<i>Portland, Me.</i>	
		78 Bromfield Rd., W. Somerville	
Taylor, Raymond Clyde	<i>me</i>	<i>Arlington Heights</i>	Σ T A House
Webb, Richard Bruce	<i>ee</i>	<i>Washington, D. C.</i>	Z Ψ House

Junior Class

Adelson, Louis	<i>ce</i>	<i>Chelsea</i>	14 Bloomingdale St.
Atkins, Arthur Randolph	<i>ce</i>	<i>Roslindale</i>	14 Ardale St.
Baldwin, Gilbert Edward	<i>ch e</i>	<i>Roxbury</i>	East, 25
Bearse, Edwin Wilton	<i>ee</i>	<i>Somerville</i>	43 Cutter St.
Berg, Carl	<i>ce</i>	<i>Everett</i>	34 Henry St.
Boss, John Harold	<i>ch e</i>	<i>Wellington</i>	18 Fourth St.
Briggs, Albert Jeffries	<i>me</i>	<i>Watertown</i>	East, 29
Brown, Horton	<i>ee</i>	<i>Marblehead</i>	West, 22
Burbank, Colby Lewis	<i>ce</i>	<i>Revere</i>	213 Beach St.
Clarke, William John	<i>me</i>	<i>Cambridge</i>	20 Chilton St.
Connor, Bernard Dominic	<i>ce</i>	<i>Somerville</i>	16 Hathorn St.
Copp, John Irving	<i>st e</i>	<i>Cambridge</i>	23 Inman St.
Cross, Ralph Upton	<i>st e</i>	<i>Worcester</i>	Δ T House
Earle, Chester Reed	<i>me</i>	<i>Lawrence</i>	West, 16½
Ferguson, David	<i>ce</i>	<i>Methuen</i>	Φ Δ House
Foster, Elliot Chandler	<i>ch e</i>	<i>Medford</i>	Commons Club

Heileman, Calvin Marx	<i>st e</i>	Tufts College	Σ T A House
Holmgren, Viking Raymond	<i>me</i>	E. Lynn	
		184 Harvard St., Cambridge	
Knowles, Mahlon Gilman	<i>me</i>	Swampscott	West, 14
Kraus, Benjamin Franklin	<i>me</i>	Jamaica Plain	West, 9
Leland, Harold Bickford	<i>ch e</i>	Somerville	Σ T A House
Lutz, William Edmund Aloysius	<i>ee</i>	Somerville	102 Prospect St.
McLellan, Robert Leston	<i>ce</i>	Dorchester	10 Oakley St.
Merritt, Warren Franklin	<i>ce</i>	Galveston, Tex.	A T Ω House
Milliman, Frank Cooley	<i>st e</i>	W. Somerville	175 College Ave.
Mishel, William Joseph	<i>ch e</i>	Roxbury	West, 6
Mortenson, Ernest Dawson	<i>ce</i>	Bedford	Commons Club
Nichols, Byron Franklin	<i>me</i>	Methuen	East, 1
Paul, Frederick Henry, Jr.	<i>ce</i>	Waltham	West, 22
Porter, Arthur Bray	<i>me</i>	Salem	A T Ω House
Ransom, Lake Smith	<i>st e</i>	Longmont, Colo.	29 Sawyer Ave.
Segal, David	<i>ch e</i>	Roxbury	46 Hampden St.
Spaulding, Paul Pickering	<i>ce</i>	Dorchester	Σ T A House
Stowell, Edson Bancroft	<i>st e</i>	Jamaica Plain	A T Ω House
Terhune, Edward Andrus, Jr.	<i>st e</i>	Dorchester	East, 30
Terry, Warren Franklin	<i>me</i>	W. Somerville	108 College Ave.
Upton, Charles Hastings	<i>st e</i>	Arlington Heights	27 Harvard St.
Wahlen, Frank Gustave	<i>me</i>	Montpelier, Vt.	East, 12

Sophomore Class

Abbott, Robinson	Malden	East, 9
Aronson, Jesse Moses	Boston	127 Myrtle St.
Bronski, Leo Max	Dorchester	58 Cushing Ave.
Carr, Philip Amory	Lawrence	Commons Club
Clark, William Wells	Waltham	Beaver St.
Cobb, Forrest Willard	Waltham	West, 27
Drummey, James Joseph	Revere	West, 11
Ela, Robert Blazo	Kezar Falls, Me.	Commons Club
Entwistle, Guy Russell	Tufts College	21 University Ave.
Green, Richard Winthrop	Winthrop	East, 28
Hawker, Leslie Ward	Wheeling, W. Va.	West, 27
Highriter, Harry Walter	Meriden, Conn.	Z Ψ House
Hodgdon, Melvin Wyman	Somerville	55 Pennsylvania Ave.
Hodges, Benjamin Redfern	Winchester	34 Myrtle Ter.
Jochim, Henry Frank	Revere	West, 11
Kelly, John Louis	Arlington Heights	32 Appleton St.
Linderbeck, Kenneth A	Willimantic, Conn.	East, 9
Loring, Warren Edward	Charlestown	9 Cedar St.

MacOnie, George Watson	<i>Tufts College</i>	<i>50 Hillsdale Rd.</i>
McCarthy, John Joseph, Jr.	<i>Somerville</i>	<i>220 Summer St.</i>
McCarthy, John Michael, Jr.	<i>Natick</i>	East, 28
Mitchie, George Arthur	<i>Lexington</i>	<i>416 Massachusetts Ave.</i>
Moore, Ronald Roberts	<i>W. Somerville</i>	<i>1 Kenwood St.</i>
Nash, James Francis	<i>E. Bridgewater</i>	Dean, 14
Nichols, Alfred Richard	<i>Dorchester</i>	East, 30
Norton, Edward Howd	<i>N. Westchester, Conn.</i>	ΔT House
O'Marra, Frank Joseph	<i>Kingston, N. Y.</i>	West, 7
Parent, Walter Elmer	<i>Stoughton</i>	<i>18 Elgin St.</i>
Porter, Leo Augustus	<i>Stoughton</i>	A T Ω House
Powers, Harvey Marcellus	<i>Hollis, N. H.</i>	East, 16
Swanson, George Swen	<i>Dorchester</i>	$\Sigma T A$ House
Tentler, Lewis Aaron	<i>Dorchester</i>	$\Sigma T A$ House
Tyler, Bernard Otto	<i>Beverly Farms</i>	$\Sigma T A$ House
Waghorne, Charles Albert	<i>Melrose</i>	<i>366 Pleasant St.</i>
Waldo, Hollis Thurlow	<i>Groveland</i>	East, 26
Walker, William Edward	<i>Orange</i>	A T Ω House
Walters, James Willard	<i>Washington, D. C.</i>	Dean, 13
Waters, Mendal	<i>Roxbury</i>	<i>1036 Harrison Ave.</i>
Zulalian, Badrig Barsam	<i>Boston</i>	<i>16 Waltham St.</i>

Freshman Class

Allen, William Messinger	<i>Cambridge</i>	<i>146 Oxford St.</i>
Bagdikian, Nishan Simon	<i>Charlestown</i>	<i>29 Bartlett St.</i>
Baker, Edwin Davis Jr.,	<i>Melrose</i>	<i>3 Irving St.</i>
Baker, Theodore Edward	<i>W. Somerville</i>	<i>20 Grove St.</i>
Beyer, Israel	<i>Roxbury</i>	<i>127 Howland St.</i>
Bickford, Jason Frederick	<i>Somerville</i>	<i>50 Vinal Ave.</i>
Bloom, Walford George	<i>Lynn</i>	<i>13 Carleton St.</i>
Brainerd, Edward Wendell	<i>Dorchester</i>	East, 10
Bullard, Walter Dudley	<i>Dorchester</i>	East, 30
Chipman, Russell Atwood	<i>Provincetown</i>	East, 23
Clough, Woodman Walter	<i>Stoneham</i>	<i>66 Wright St.</i>
Cogswell, Burnham	<i>Essex</i>	East, 5
Davis, Edward Harrington	<i>Saugus</i>	<i>11 Taylor St.</i>
DeFoe, Joseph Harry	<i>Chelsea</i>	<i>105 Library St.</i>
Demirjian, Nash Manook	<i>Newton Centre</i>	<i>187 College Ave., W. Somerville</i>
Derby, Charles Howard	<i>Peabody</i>	West, 29
Dewey, Edson Eugene	<i>Brookline</i>	<i>8 Cypress Place</i>
Deyo, Henry Edward	<i>Athol</i>	<i>35 High St.</i>
Dolton, Raymond William	<i>Lynn</i>	<i>154 Tracy Ave.</i>

Draper, James Sumner	Wayland	
Ewell, Robert Manning	Medford	136 Washington St.
Ford, Horace Hills	Somerville	58 Bromfield Road
Gallagher, Frank Joseph	Somerville	19 Beacon Pl.
Gallen, Francis Lawrence	Somerville	600 Broadway
Harris, Mason Dix	Waltham	5 Fuller St.
Harris, Richard Treat	Norwalk, Conn.	East, 31
Hartwell, Warren Emerson	Littleton	Dean, 2
Hayward, Ernest Lincoln	W. Somerville	5 Windom St.
Herald, Charles Raymond	Everett	A T Ω House
Higgins, Elliot Wight	Dover	Dedham St.
Hinckley, Wheelock Wisner	Brockton	284 N. Carey St.
Hobbs, Edwin	Everett	3 Harris Ave.
Horenstein, Alexander	Tientsin, China	West, 32
Hudson, Abel Clifford	Auburn, N. Y.	East, 3
Johnson, Albin Clifford	Orange	East, 33
Judd, Rolland Frederick	Somerville	281 Powder House Blvd.
Kagan, Maurice	Boston	77A Revere St.
Kimball, Harold Francis	Arlington	129 Broadway
Kneeland, Frank Coleman	Waban	1249 Beacon St.
Levine, Lewis	Roxbury	22 Hollander St.
Levy, Jacob Meyer	Corry, Pa.	
	500B Broadway, Somerville	
Libman, Harry	Dorchester	1 Page St.
Lincoln, Frank William, Jr.	Somerville	45 Oliver St.
London, Harry	Dorchester	36 Coleman St.
Lovejoy, Julian	Hartford, Conn.	Dean, 2
Lydiard, Maynard Frothingham	Hartford, Conn.	Dean, 5
MacAfee, John	Woodstock, N. B.	East, 21
MacCharles, Howard Kenneth	Peabody	128 Lowell St.
MacIlvain, Karl Messenger	Jamaica Plain	278 Arborway
Marshall, Irving Davis	Everett	71 Summer St.
McLellan, Charles Adelbert	Jamaica Plain	79 Sheridan St.
McNamara, Edmund Joseph	Clinton	
	236 Bennington St., E. Boston	
Merrill, Carl Bixby	Medford	99 Park St.
Mitsui, Takamichi	New York, N. Y.	West, 19
Mohan, John Patrick	Lynn	51 Mall St.
Monroe, Harris Goodman	Orange	A T Ω House
Moodie, William Carmichael	Jewett City, Conn.	East, 11
Morrell, Allen Everett	Wayland	Old Sudbury Rd.
Morse, Arthur Lewis	Watertown	14 Hersom St.
Nolan, Angus	W. Somerville	10 Whitfield Rd.

Parnell, Eric	<i>St. Johns, Newfoundland</i>	East, 11
Pennucci, Alexander	<i>East Boston</i>	115 <i>Neptune Rd.</i>
Philpott, Herbert Charles	<i>Arlington</i>	285 <i>Mass. Ave.</i>
Pinkham, Harold Lloyd	<i>West Medford</i>	69 <i>Sagamore Ave.</i>
Piper, Arthur Maine	<i>Tufts College</i>	312 <i>Boston Ave.</i>
Ratti, Augustus Peter	<i>W. Everett</i>	179 <i>Bucknam St.</i>
Reynolds, Kenneth Cass	<i>W. Somerville</i>	231 <i>Morrison Ave.</i>
Rice, Harold De Blois	<i>Somerville</i>	East, 14
Rich, Richard Augustus, Jr.	<i>Truro</i>	East, 8
Rosenthal, Edward	<i>Chelsea</i>	119 <i>Franklin Ave.</i>
Russell, Earl Sampson	<i>Melrose</i>	41 <i>Crescent Ave.</i>
Russell, Herbert Burgoyne	<i>Jamaica Plain</i>	Dean, 10
Ryan, Harold Lyman	<i>Rio de Janeiro, Brazil, S.A.</i>	East, 14
Scarlett, Edward George	<i>Lynn</i>	West, 10
Scarlett, William Alfred	<i>Lynn</i>	West, 10
Scully, James Bennet	<i>Hyde Park</i>	West, 2
Shepherd, Harold Nichols	<i>Lynn</i>	24 <i>Gilbert St.</i>
Smith, Christopher Ilsley	<i>Chatham</i>	Σ T A House
Stearns, Bernard Skinner	<i>Mansfield</i>	10 Francis Circuit, Winchester
Stiles, William Harvey	<i>Sudbury</i>	East, 8
Sugarman, Leon	<i>Palestine, Turkey</i>	5 <i>Oakland St., Newburyport</i>
Thorndike, Kinsley Barrett	<i>Medford</i>	A T Ω House
Turner, Alfred Edward	<i>Auburn, N. Y.</i>	East, 4
Wainwright, Stuart Frederick	<i>Andover</i>	Paige, 29
Wallace, Merrill Gregory	<i>W. Somerville</i>	83 <i>Irving St.</i>
Walsh, James Henry	<i>Somerville</i>	122 <i>Prospect St.</i>
Woodill, Harold William	<i>Melrose</i>	306 <i>W. Emerson St.</i>
Woodward, Clarence Harvey	<i>Tyngsboro</i>	West, 18
Young, Raymond Morrison	<i>Winchester</i>	<i>Wedgemere Ave.</i>

Unclassified Students

Ferreira, Misael Lemc	<i>Brajanco, Brazil</i>	69 <i>Westland Ave., Boston</i>
Finnell, Norman Croft	<i>Cambridge</i>	66 <i>Wendell St.</i>
Gladstein, Joseph	<i>Boston</i>	91 <i>Chambers St.</i>
Kramer, Charles George	<i>Dorchester</i>	99 <i>Elmo St.</i>

Special Student

Gray, Thomas Francis	<i>W. Somerville</i>	6 <i>Herbert St.</i>
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Bromfield-Pearson School

Coffin, Arthur Alfred	Chelsea	4 Murray St.
Davis, Daniel Louis	Kendal Green	Conant Road
de Favia, Joas Jorge	Brazil	28 Dearborn Road
Haworth, Richard	Dorchester	53 Grampian Way
Heald, Harold Francis	Somerville	171 Powder House Blvd.
Lowenstam, Sigmund	Manchester, N. H.	339 E. Spruce St.
Moses, Howard Leslie	W. Somerville	50 Meacham Rd.
Orcutt, John Wesley	Dorchester	382 Columbia Rd.
Pierce, Fred Hastings	Cambridge	5 Russell St.
Robertson, Warren Madison	Revere	42 Page St.

Supplementary List

(Students present during 1914-1915, but not appearing in the catalogue)

Ellis, Frederic Joseph	<i>me</i>	Danvers	Commons Club
Gray, Thomas Francis	<i>sp</i>	W. Somerville	6 Herbert St.
Lutz, William Edmund Aloysius	<i>ee</i>	Somerville	102 Prospect St.
Zualian, Badrig Barsam		Boston	16 Waltham St.

Crane Theological School

SIX-YEAR COURSE

Sixth Year

Gaskin, William, B.D.	<i>ab-bd Derry, N. H.</i>	Paige, 14
Mark, Thomas Montgomery	<i>ab-bd Glasgow, Scotland</i>	Paige, 18

Fifth Year

Bisbee, John Bancroft	<i>bs-bd Arlington Heights</i>	Paige, 31
Mark, John Nicol	<i>bs-bd Glasgow, Scotland</i>	Paige, 18

Third Year

Whippen, Elbert Wilder	<i>ab-bd Kingston, N. H.</i>	Paige, 25
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First Year

Baird, Arthur Earle	<i>bs-bd So. Boston</i>	Paige, 32
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Special Students

Cole, Alfred Storer	<i>Buckfield, Me.</i>	Paige, 19
Hubon, Charles Wilson	<i>Salem</i>	21 <i>Pickman St.</i>
Lawrence, Charles Norwood	<i>Worcester</i>	Paige, 15
Smith, Isaac	<i>England</i>	Paige, 27

Non-Resident Student

Bisbee, Eleanor	<i>ab-bd Arlington Heights</i>	<i>Camp Hill, Ala.</i>
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Post-Graduate Students

Mark, George Archibald	<i>Glasgow, Scotland</i>	Paige, 18
<i>B.S., B.D., 1915</i>		
Orito, Joseph Chusaku	<i>Hokkaido, Japan</i>	Paige, 36
<i>B.S., B.D., 1915</i>		

Graduate School

Resident Students

ABELS, MARGARET HUTTON	Cambridge	8 Mellen St.
<i>A.M., 1912 (University of Wisconsin) First Year Political Science</i>		
GARABEDIAN, CARL ARSHAG	Dorchester Center	Paige, 30
<i>B.S., 1915 First Year Mathematics and Philosophy</i>		
HASKELL, RUTH SIBLEY	Brookline	22 Garrison Rd.
<i>A.B., 1906 First Year History and Public Law</i>		
LAMONT, RICHARD ROY	W. Somerville	76 Maple St., Malden
<i>A.B., 1912 First Year German and Music</i>		
MARK, GEORGE ARCHIBALD	Tufts College	Paige, 18
<i>A.B., B.D., 1915 First Year Political Science and Applied Christianity</i>		
MORTON, JOSEPH WEBSTER	Everett	19 Waverly St.
<i>A.B., 1911 Third Year Modern Languages and Music</i>		
PHILLIPS, RALPH OLIVER	Somerville	Σ T A House
<i>B.S., 1915 First Year Chemistry</i>		

Special Student

ORITO, JOSEPH CHUSAKU	Hokkaido, Japan	Paige, 36
<i>B.S., 1915 English and History</i>		

Non-Resident Students

GREENOUGH, MAURICE BROWN	Cleveland, Ohio	
<i>B.S., 1912 First Year Engineering Case School of Applied Science</i>		
HAZELTINE, BURT ALDEN	Amherst Mass., Agricultural College	
<i>B.S., 1913 First Year Mathematics</i>		

One-Year Pre-Medical Course

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

One-Year Pre-Medical Course

Baker, Max	<i>Dorchester Centre</i>
Benson, Clarence Kirk	<i>Dedham</i>
Berenson, Hyman	<i>Boston</i>
Braverman, Aaron Harry	<i>Roxbury</i>
Brennan, Margaret Elizabeth	<i>East Lynn</i>
Brothers, John Henry	<i>Providence, R. I.</i>
Butler, Alfred Worcester	<i>Waltham</i>
Cahill, William, Jr.	<i>Lawrence</i>
Cass, Harold Alexander	<i>Roxbury</i>
Coleman, Joseph Edwards	<i>Southampton</i>
Connors, Thomas Aquinas	<i>Dorchester</i>
Cooper, Olive Alfreda	<i>Revere</i>
Cormier, Evariste Alfred	<i>Leicester</i>
Corr, Joseph Edward	<i>Dorchester</i>
Cruickshank, Frank Sheppard	<i>Dorchester Centre</i>
Dearborn, Burton Morrill	<i>Medford</i>
DeCesare, Nicandro Francis	<i>Lawrence</i>
Desmond, Margaret Ellen	<i>Beverly</i>
Dinneen, William Thomas	<i>Lynn</i>
Dion, Deo Josapha	<i>Taftville, Conn.</i>
Dowd, Aloysius Francis	<i>Manchester, N. H.</i>
Dubins, Joseph Aaron	<i>Dorchester</i>
Falk, Arthur Herman	<i>Boston</i>
Fazioli, Bernardo Maria	<i>Everett</i>
Flynn, Joseph William	<i>Dorchester</i>
Galleani, Ilia	<i>Wrentham</i>
Genest, Aloria Henry	<i>Indian Orchard</i>
Gilroy, Lester James	<i>Attleboro</i>
Glickman, Helen Sarah	<i>Springfield</i>
Golden, Samuel	<i>Boston</i>
Goodale, Alfred Montgomery	<i>Cambridge</i>
Gould, Robert Louis	<i>Roxbury</i>
Grenberg, Charna	<i>Shanghai China</i>
Grossman, Samuel	<i>Taunton</i>
Grunt, Jacob Leo	<i>Dorchester</i>
Hanson, Lester Arthur	<i>Worcester</i>
Hanszowski, Pauline Kathryn	<i>Ware</i>

Harrington, Elmer Joseph	<i>Holyoke</i>
Heimlich, Fred	<i>Lynn</i>
Herrero, Blas Carlos	<i>Corozal, Porto Rico</i>
Hogan, Daniel John	<i>Charlestown</i>
Honey, Florence Emerson	<i>Spencer</i>
Horan, Thomas Benedect	<i>Fall River</i>
Horan, William Augustine Joseph	<i>Fall River</i>
Ingalls, Raymond George	<i>Berlin, N. H.</i>
Jellis, Walter	<i>Manchester, N. H.</i>
Jores, Mark Harry	<i>Boston</i>
Joyce, Roland Joseph	<i>Nashua, N. H.</i>
Kamberg, Samuel	<i>Boston</i>
Kaplan, Edward	<i>Everett</i>
Kaplan, Julius Arthur	<i>Malden</i>
Kerkhoff, Mary Edith	<i>Attleboro</i>
Kotler, Moses George	<i>Boston</i>
Lavelle, Gertrude Helen	<i>Natick</i>
Lawrence, Caleb Mansell	<i>Boston</i>
Lee, Frederick Morton	<i>Newport, R. I.</i>
Levy, Phillip Earle	<i>Holliston</i>
Lilienthal, Samuel	<i>Boston</i>
Lugitch, Maurice	<i>Boston</i>
Lutecki, Bronislaw	<i>Boston</i>
Lynch, Harold Francis	<i>Holyoke</i>
Mace, Roswell Greenwood	<i>Huntington</i>
MacKinnon, Irvile Herbert	<i>Attleboro</i>
Maraldi, Carl Frank	<i>Roxbury</i>
McLean, John Cassidy Joseph	<i>Holyoke</i>
McQuade, Thomas Henry	<i>Providence, R. I.</i>
McSweeney, Joseph Henry	<i>Somerville</i>
Montgomery, David Henry	<i>Providence, R. I.</i>
Moore, Stevenson, Jr.	<i>Chicopee</i>
Morgan, Clifford Milton	<i>Caribou, Me.</i>
Morrison, Charles Elmoise	<i>North Brookfield</i>
Moses, Alvin Raymond	<i>Lynn</i>
Mulally, Harold Thomas	<i>Danvers</i>
Murphy, Thomas Burke	<i>Lynn</i>
Nadel, Samuel	<i>Dorchester</i>
Olans, Herman	<i>Roxbury</i>
O'Riley, John Crowley	<i>Milford</i>
Park, Harry Linwood	<i>Revere</i>
Pelchie, William Joseph	<i>Shelburne Falls</i>
Pelletier, Emery	<i>Providence, R. I.</i>

Perham, Sidney Craig	<i>Chelmsford</i>
Peters, Hugo Grant Bruno	<i>Brookline</i>
Peterson, Carl Rudolph	<i>Falmouth</i>
Radigan, Mark Richard	<i>Houlton, Me.</i>
Randall, Guy Charles	<i>Lowell</i>
Ransom, Roy Anderson	<i>Boston</i>
Reardon, John F.	<i>North Grosvenordale, Conn.</i>
Reilly, William Edward	<i>Taunton</i>
Rice, Charles	<i>Dorchester</i>
Roberson, Tracey Lloyd	<i>Tunkhannock, Pa.</i>
Roberts, Harry Lewis	<i>Springfield</i>
Rondeau, Leo Garrigan	<i>North Brookfield</i>
Rotman, Nelson	<i>East Boston</i>
Russell, Wilson James	<i>Manchester, N. H.</i>
Ryan, James Bernard	<i>Easthampton</i>
Ryan, John Newman	<i>Ware</i>
Sacks, Albert David Hyman	<i>Boston</i>
Sawyer, Carroll Whitman, Jr.	<i>Somerville</i>
Shea, Cyril Emmett	<i>Chicopee Falls</i>
Shir, Morris	<i>Boston</i>
Siragusa, James Joseph	<i>Boston</i>
Smith, Stephen Munro	<i>Little Falls, N. Y.</i>
Spitz, Jacob	<i>Boston</i>
Srinivasa, Frank James	<i>Naoma, South India</i>
Stasio, Joseph	<i>East Boston</i>
Sterns, Albert Henry	<i>New Bedford</i>
Stern, Maxwell	<i>Chelsea</i>
Stone, Moses Jacob	<i>Dorchester</i>
Sweeney, William Joseph	<i>Newburyport</i>
Thurman, Aaron	<i>Dorchester</i>
Tumarkin, Morris Saul	<i>Roxbury</i>
Vetere, Gaetano Cundari	<i>Woodland, Me.</i>
Weinberg, Philip Barron	<i>Brockton</i>
Weissman, Ruth	<i>Boston</i>
West, Gustav Fredrick	<i>Boston</i>
White, John Bernard	<i>Lawrence</i>
Woodman, Marjorie	<i>West Medway</i>
Zacks, David	<i>Taunton</i>
Zelig, David	<i>Haverhill</i>
Zundell, Samuel Charles	<i>Fall River</i>

Medical School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Fourth Year

(To graduate in June, 1916)

Abbott, Samuel Edson	<i>Syracuse, N. Y.</i>
Anderson, Arthur Forest	<i>Westerly, R. I.</i>
Applebaum, Jacob	<i>Dorchester</i>
Aronson, Charles	<i>Salem</i>
Battershall, Jesse Wolfenden	<i>Attleboro</i>
Berr, Alfred William	<i>Rockville, Conn.</i>
Brannick, Catherine Elizabeth	<i>Somerville</i>
Carney, Harold Edward	<i>Portland, Me.</i>
Cauley, John Henry, Jr.	<i>Dorchester</i>
Chalfen, Samuel Edward	<i>Cambridge</i>
Cohen, Leo	<i>Providence, R. I.</i>
Cohen, Samuel Adams	<i>Roxbury</i>
Connor, Hilary Joseph	<i>Woodstock, N. B.</i>
Cotting, William Frederick	<i>Tufts College</i>
Dalton, Stephen James	<i>Marlboro</i>
Dennett, Paul Carroll	<i>Portsmouth, N. H.</i>
DiMento, Vincent James	<i>Boston</i>
Duff, John, Jr.	<i>Charlestown</i>
Dunn, Joseph Henry	<i>Rockland</i>
DuVally, Nicholas	<i>Fall River</i>
Easter, Edna Frances	<i>Arlington</i>
Fiege, Herbert Reynold	<i>Cambridge</i>
Friederman, Elie Louis	<i>Boston</i>
Gaetani, Arthur Leonard	<i>Dorchester</i>
Gallant, Alfred Edward	<i>Waltham</i>
Gangemi, Michael Angelo	<i>Brooklyn, N. Y.</i>
Ganley, Arthur Joseph, B.S. (Dartmouth Coll.)	<i>Methuen</i>
Genge, Victor Patrick	<i>St. Johnsbury, Vt.</i>
Grant, Winifred Margaret	<i>Lawrence</i>
Hale, Frank Smith	<i>Providence, R. I.</i>
Hardy, Wilbert Clark	<i>Haverhill</i>
Harriman, Frank Edwin	<i>North Adams</i>
Hart, Louis Park	<i>Marlboro</i>
Herlihy, David Joseph	<i>Cambridge</i>

Hurley, William Cyril Rowe	<i>Beachmont</i>
Johnson, Goodwin Adolph	<i>Keene, N. H.</i>
Kandib, Annie Hilda	<i>Dorchester</i>
LaLiberte, Edmond Joseph	<i>Spencer</i>
Liberti, Angelo	<i>East Boston</i>
Logiodice, Leonard Francis	<i>South Boston</i>
Long, Paul Raymond	<i>North Yarmouth, Me.</i>
Lynch, Charles Leo	<i>Roxbury</i>
MacCordy, Earl Cunningham	<i>Amsterdam, N. Y.</i>
MacPhee, Lillian Lee	<i>Somerville</i>
Martin, William Richard	<i>Spencer</i>
Mata, Carlos	<i>San Jose, Costa Rica</i>
McDonald, Harry Leo	<i>Attleboro</i>
McKiernan, Robert Lewis	<i>New Haven, Conn.</i>
Meledy, Joseph Aloysius	<i>Providence, R. I.</i>
Melkonian, Eliza Armenoohi	<i>Arabker, Turkey</i>
Meredith, Florence Lyndon	<i>Dorchester</i>
Mileau, Alexander, Jr.	<i>East Braintree</i>
O'Connor, William Henry	<i>Dorchester</i>
Papen, George William	<i>Roxbury</i>
Park, Esther Marguerite	<i>Warren, N. H.</i>
Perry, Walter Leslie	<i>Medford</i>
Powers, Harris Earle	<i>Manchester, N. H.</i>
Radding, Moses Bernhard	<i>West Springfield</i>
Rice, George Arnold	<i>Worcester</i>
Rudman, Israel Ellis	<i>Bangor, Me.</i>
Scott, David Miller, A.B. (Lincoln University)	<i>Augusta, Ga.</i>
Shafer, Rudolph Jonas	<i>Castleton-on-Hudson, N. Y.</i>
Simmons, Hugh Ludwig	<i>Morrill, Me.</i>
Skirball, Joseph Jacob	<i>Beachmont</i>
Spillane, Bernard A.B. (Dartmouth Coll.)	<i>Lexington</i>
Sullivan, Daniel Joseph	<i>Manchester, N. H.</i>
A.B. (Mt. St. Josephs Coll.)	
Sullivan, Robert Thomas	<i>Greenfield</i>
Sundelöf, Ester Matilda Eleonora	<i>Roxbury</i>
Sweeney, John Gerard	<i>N. Cohasset</i>
Tierney, Edward James	<i>Holyoke</i>
Tobey, Henry Pratt	<i>Great Barrington</i>
Tobin, Thomas Joseph	<i>Fall River</i>
Ullian, Louis Joseph	<i>Boston</i>
Voorhis, Kathalyn	<i>Paterson, N. J.</i>
Ward, John Joseph	<i>Johnstown, N. Y.</i>
Weiss, Bernard	<i>Boston</i>

Wood, William Baxter	<i>Millbury</i>
Woodside, John Nelson	<i>Boston</i>
Yat, Wong King	<i>Duck Sing Lee,</i> <i>Kwong Tung, China</i>
Zarrella, Angelo Mario	<i>East Boston</i>

Third Year

(To graduate in June, 1917)

Adams, Edward Augustus	<i>Fitchburg</i>
Ash, Richard Maurice	<i>W. Quincy</i>
Atkinson, Frederick Charles	<i>Methuen</i>
Banquer, Jacob Ellis	<i>Dorchester</i>
Bolotow, Nathan Abraham	<i>Lonsdale, R. I.</i>
Bridgwood, David	<i>Brockton</i>
Brown, Abe Arthur	<i>Lawrence</i>
Brown, Henry Seabury	<i>Providence, R. I.</i>
Budreski, Alphonse Frank	<i>Brockton</i>
Caruso, Septimio	<i>Roslindale</i>
Casey, Chester Arthur	<i>Ironton, Ohio</i>
Cassidy, Franklin Chester	<i>Medford</i>
Chisholm, Lawrence Chesley	<i>Salem</i>
Churchill, Anna Quincy, A.B., A.M.	<i>Dorchester</i>
Clark, Millard Cressey	<i>Bethlehem, N. H.</i>
Cleveland, Harold Frank, Ph.G.	<i>Cambridge, N. Y.</i>
Cliff, Frederica Leigh (A.B., Radcliff Coll.)	<i>Boston</i>
Condric, James Francis	<i>Weymouth</i>
Corea, George Thomas	<i>Boston</i>
Corthell, Mary Hill	<i>Eastport, Me.</i>
Crighton, Andrew John, Jr. (A.B., Trinity Coll.)	<i>East Hartford, Conn.</i>
Crimmin, Leo Philip	<i>Brockton</i>
Cunha, Manuel Felix	<i>Somerville</i>
Curran, Louis Frederic	<i>Fall Rivtr</i>
Currie, Inez Margaret	<i>Needham</i>
Derian, Mardiros Hovhannes	<i>Battle Creek, Mich.</i>
Doucet, Charles Stanislaus	<i>Manchester, N. H.</i>
Duffy, Edward Anthony	<i>Worcester</i>
Fitzgibbons, Patrick Joseph	<i>Amsterdam, N. Y.</i>
Fowler, Alma Evelyn	<i>Boston</i>
French, Leland Malcom	<i>Worcester</i>
Gallagher, Henry Joseph	<i>Providence, R. I.</i>
Ganley, Edward Henry	<i>Methuen</i>
Geary, Frank Henry	<i>Danvers</i>
Ginn, Robert Leicester	<i>West Somerville</i>

Goddard, Fred Chambers	<i>Dover, N. H.</i>
Goldberg, Max Manus	<i>Lynn</i>
Goldman, Edward	<i>Boston</i>
Gordon, Louis	<i>Boston</i>
Grandison, Louis Julian	<i>Charlestown</i>
Greenwood, Wilbourt Edward	<i>Providence, R. I.</i>
Gurjian, Leon Kevork	<i>Worcester</i>
Hadfield, Jonathan Pyott	<i>Edgewood R. I.</i>
Hamburg, Miles Myer	<i>Everett</i>
Hanlon, Morgan Patrick	<i>Cambridge</i>
Haskins, Abraham	<i>Boston</i>
Heffernan, Roy Joseph	<i>Somerville</i>
Hekimian, Jacob Hagop	<i>East Weymouth</i>
Hoffman, Morris	<i>Roxbury</i>
Hooper, Anne Leslie, A.B.	<i>Tufts College</i>
Hopkins, Lawrence Towle	<i>Somerville</i>
Howard, Rhoda Letitia	<i>Troy, N. Y.</i>
Jackson, Howard LaFayette	<i>Wells Bridge, N. Y.</i>
Johnson, Lewis Wells	<i>Greenfield</i>
Joslin, Royal Knight	<i>Worcester</i>
Kable, Josephine Downie	<i>York, Pa.</i>
Kaufman, Morris Frank	<i>Boston</i>
Kiley, Cornelius Joseph	<i>Peabody</i>
Kirby, James Caleb	<i>Salem</i>
Krepps, Raymond Miles	<i>Waynesboro, Penn.</i>
Lanois, Esdras Joseph	<i>Northboro</i>
Larson, Walfred Isidor	<i>Hartford, Conn.</i>
Lawlor, Peter Paul	<i>New Haven, Conn.</i>
Lipchut, Charles Saul	<i>New Bedford</i>
Loewe, Walter Ralph	<i>Dorchester</i>
Long, Rufus Wilfred	<i>Manchester</i>
Macmillan, Alexander Stewart	<i>Boston</i>
McKay, Hugh Gordon	<i>Howland, Me.</i>
McKinnon, Donald Cuyler	<i>Lowell</i>
Medalia, David Bernard	<i>Dorchester</i>
Merritt, Edward Lester	<i>Fall River</i>
Merritt, Robert Elmer	<i>Wollaston</i>
Mills, Parker	<i>Lynn</i>
Murphy, James Moore	<i>Norwich, Conn.</i>
O'Connell, John Gabriel	<i>Bridgeport, Conn.</i>
O'Neill, Elizabeth Veronica	<i>Mattapan</i>
Pettengill, Warren Martin	<i>Haverhill</i>
Polakewich, Isaac	<i>Biddeford, Me.</i>

Ratthey, Arthur Andrew	<i>Lawrence</i>
Ring, Arthur Joseph	<i>Lynn</i>
Rosenkovitz, Edward	<i>Revere</i>
Rowley, Philip William	<i>Gloucester</i>
Rudman, Benjamin William	<i>Portland, Me.</i>
Ruisi, John Edward	<i>Westerly, R. I.</i>
Salmon, Charles Augustus	<i>Worcester</i>
Sarno, Avery Hugo	<i>Amsterdam, N. Y.</i>
Schæfer, Jacob	<i>New Britain, Conn.</i>
Segall, Samuel	<i>Haverhill</i>
Simons, Sigmund	<i>Pawtucket, R. I.</i>
Slater, Robert	<i>Boston</i>
Smith, Lillian Richardson	<i>Lawrence</i>
Solomon, Sidney	<i>Revere</i>
Story, Theodore LeRoy	<i>Hartford, Conn.</i>
Struthers, Halbert Kinnie	<i>Upton</i>
Villone, Anthony Joseph	<i>New York, N. Y.</i>
Ward, John Clement	<i>Marlboro</i>
Warner, Helen Thompson	<i>Seymour, Conn.</i>
Willey, Walter Brown, Jr.	<i>Bangor, Me.</i>
Wyman, Thomas Clark	<i>Portland, Me.</i>
Zonn, Seymour Israel	<i>Malden</i>

Second Year

(To graduate in June, 1918)

Alliegro, Michael Angelo	<i>Brooklyn, N. Y.</i>
Amdursky, Isaac James	<i>Somerville</i>
Armstrong, Irving Foster	<i>Marlboro</i>
Atkinson, Roderick Melville	<i>Boston</i>
Boucher, Wilfred Anatole	<i>Woonsocket, R. I.</i>
Bowman, Edward Francis	<i>Boston</i>
Brown, Joseph Lucien	<i>Gadsden, Ala.</i>
Burke, Edward Francis	<i>Providence, R. I.</i>
Ph.G. (Columbia Univ.)	
Cohen, Newman	<i>Dorchester</i>
Colton, Hubert Porter	<i>Dorchester</i>
Connors, Jeremiah Henry	<i>Boston</i>
Cunningham, Thomas Patrick	<i>Pascoag, R. I.</i>
Currier, Donald Estes	<i>Brookline</i>
Dahlen, Carl Albert	<i>Roxbury</i>
David, Jesse Mirza	<i>Chicago, Ill.</i>
Dean, Ella Batchelder	<i>Beverly</i>
Delaney, William Joseph	<i>Marlboro</i>

Dunphy, Pierce James	<i>Worcester</i>
A.B. (Holly Cross Coll.)	
Emard, George Adelbert	<i>Mansfield</i>
Ph.C. (Mass. Coll. Pharm.), Pharm.D. (Mass. Coll. Pharm.)	
Feldman, Aaron	<i>Boston</i>
Gately, Lynde	<i>Melrose</i>
Goldman, Harry	<i>Roxbury</i>
Golini, Carlotta Nicholas	<i>Providence, R. I.</i>
Greenberg, Boris Efim	<i>Roxbury</i>
Harris, Walter Callahan	<i>Millbury</i>
A.B. (Holy Cross Coll.)	
Hatt, Rafe Nelson	<i>West Paris, Me.</i>
Higgins, Clarence Bertrand	<i>Fort Fairfield, Me.</i>
Hook, Marion	<i>St. Leonards-on-Sea, England</i>
Israel, Joseph Gilbert	<i>Fitchburg</i>
Jankelson, Isaac Rudolph	<i>Roxbury</i>
Kramer, George, D.M.D.	<i>Malden</i>
Landry, Pierre Leonard	<i>Bridgeport, Conn.</i>
Litch, William Isidore	<i>Winthrop</i>
Lokrantz, Sven Richard	<i>Stockholm, Sweden</i>
MacDonald, Joseph C.	<i>Beloit, Kansas</i>
Marcus, Mary Arion	<i>Boston</i>
Maroney, Frederick William	<i>Springfield</i>
Mason, Harry Edison	<i>Cambridge</i>
McAlpine, Alfred Freeman	<i>Somerville</i>
McDonald, Ray Thomas, A.B. (Tufts College)	<i>Medford</i>
McGauley, Walter Gardner, D.D.S.	<i>Boston</i>
McNamara, John Ignatius	<i>Taunton</i>
Meehan, James Morgan	<i>Buffalo, N. Y.</i>
Meltzer, Philip Edward, D.M.D.	<i>Roxbury</i>
Moran, Andrew Charles	<i>Fall River</i>
Morris, James Benjamin	<i>Cape Verde Island, Portugal</i>
Mulhern, Joseph Patrick	<i>Worcester</i>
Neill, Roberta Estella	<i>Holyoke</i>
Nichols, Guy Edward	<i>Wilmington</i>
Nickum, John Stanley	<i>Allentown, Pa.</i>
Oslin, William Henry	<i>Providence, R. I.</i>
Parker, Charles Clinton, Jr.	<i>Roxbury</i>
Powers, John Paul	<i>Worcester</i>
Pratt, Ernest Frederick	<i>Lowell</i>
Resnik, Joseph, B.S. (Columbia Univ.)	<i>Roxbury</i>
Robinson, Bernard Herman	<i>Roxbury</i>
Rockwell, Llewellyn Harrison	<i>Roxbury</i>

Sannella, Salvatore	<i>Revere</i>
Saphirstein, Hyman	<i>Boston</i>
Sarason, Lillian	<i>New Haven, Conn.</i>
Sawyer, Edward Julius	<i>Newtonville</i>
Shaw, John	<i>Malden</i>
Shubert, Julius	<i>Boston</i>
Steffen, Anna Elizabeth, A.B. (Oberlin Coll.)	<i>Vermilion, Ohio</i>
Strammer, Myron Abner	<i>Jamaica Plain</i>
Sullivan, Russell Francis	<i>Melrose</i>
Swasey, Ednah Evitts	<i>Salem</i>
Tanner, Walter Lewis	<i>E. Hartford, Conn.</i>
Terada, Osamu	<i>Sakai City, Japan</i>
Trombley, Walter Vincent	<i>Broad Brook, Conn.</i>
Troupin, Abraham Solomon	<i>Roxbury</i>
Walsh, Jeffrey James, D.M.D.	<i>Fall River</i>
Wheeler, William Davidson	<i>Roxbury</i>
Woolverton, Edgar Frank	<i>Woodstock, N. B.</i>

First Year

(To graduate in June, 1919)

Alden, Carmi Rupert	<i>Whitman</i>
Barnard, Frederick Joseph	<i>Meriden, Conn.</i>
Barstow, Carl Elijah	<i>Waltham</i>
Bartlett, Frank Herbert, Jr.	<i>East Lynn</i>
Baxley, Haughton Whitridge	<i>East Boston</i>
Brackett, Nathaniel Parker	<i>Waltham</i>
Bradley, John Francis	<i>Salem</i>
Burke, John Edward	<i>South Natick</i>
Byrnes, James Edmund	<i>Holyoke</i>
Cappiello, Silvestro	<i>Providence, R. I.</i>
Carey, Joseph Henry	<i>Manchester</i>
Clare, Wendell Phillips	<i>Newton Highlands</i>
Conley, James Nicholas	<i>Charlestown</i>
Connors, Raymond Earl	<i>Providence, R. I.</i>
Cornelius, James Thambidurai	<i>Madras, South India</i>
Davis, Harry Eugene	<i>Portland, Me.</i>
Deitch, John	<i>Boston</i>
Dennen, Edward Henry	<i>Gloucester</i>
Devere, Earl Robert	<i>Providence, R. I.</i>
Devin, William Francis	<i>Westboro</i>
Donovan, William James	<i>Norwood</i>
Dordoni, Arthur Peter	<i>Bridgton, Me.</i>
Dougherty, Edward Francis, Jr.	<i>Woonsocket, R. I.</i>

Dunphy, John Joseph, Jr.	<i>North Brookfield</i>
Dushinsky, Samuel Sidney	<i>East Boston</i>
Dwyer, George Lawrence	<i>Manchester, Conn.</i>
Eagan, Owen Louis	<i>Fall River</i>
Econom, Peter James	<i>New York, N. Y.</i>
Entwistle, Clayton Ross	<i>Monson</i>
Feldman, Louis	<i>Boston</i>
Fitch, Emmett Chandler	<i>Moovers, N. Y.</i>
Fitzgerald, Joseph William	<i>Jamaica Plain</i>
Fleury, Oswald Theodore	<i>Chicopee Falls</i>
Forsley, Thomas, Jr.	<i>Manchester, N. H.</i>
Friborg, Joseph Nathaniel	<i>Manchester, N. H.</i>
Fryburg, Charles August	<i>Worcester</i>
Gagne, Joseph, Ph.G.	<i>Willimansett</i>
Gallagher, James Francis	<i>Newton Centre</i>
Gates, Ernest Willoughby, D.M.D.	<i>Boston</i>
Gibson, Howland Allan	<i>Newport, R. I.</i>
Gilman, William Henry	<i>Cambridge</i>
Golden, Harry	<i>Somerville</i>
Gosian, Moses	<i>Meriden, Conn.</i>
Graves, Cecil LeRoy	<i>Rumford, Me.</i>
Hennigar, Beatrice Almore	<i>Chester Basin, N. B.</i>
Henson, Paul Palmer	<i>Orleans</i>
Hooper, George Henry	<i>Iron Mountain, Michigan</i>
Iovanna, Nicholas	<i>Revere</i>
Israelian, Agnes Grace	<i>Boston</i>
Jackson, Edward Joseph	<i>Fall River</i>
Jasinsky, Simon John	<i>South Boston</i>
Johnson, Charles Franklin	<i>Henniker, N. H.</i>
Johnson, Harold Henry	<i>Bethlehem, N. H.</i>
Kaplan, Jacob Copel	<i>Roxbury</i>
Kinmonth, Raymond Arnold	<i>Brooklyn, Conn.</i>
Koppel, William	<i>Boston</i>
Korb, Harry	<i>Roxbury</i>
Korolick, George Gordon	<i>Boston</i>
Lancey, Clifford Scales	<i>Townsend</i>
Lindblad, Eric Harry	<i>Avon</i>
Mackey, Charles Edward	<i>South Boston</i>
Mahoney, Ralph Patrick	<i>Portland, Me.</i>
Mahoney, William Anthony	<i>Providence, R. I.</i>
Marshall, Orland Smith	<i>Waltham</i>
Martin, Arthur Ellerby	<i>Providence, R. I.</i>
Matteo, Frank Irving	<i>Providence, R. I.</i>

McDermott, Charles Francis	<i>Fall River</i>
McDonald, William James	<i>Westboro</i>
McDonnell, Joseph Leo	<i>Woonsocket, R. I.</i>
McKenney, Frederick William	<i>Lynn</i>
McLaughlin, James Francis	<i>Manchester, N. H.</i>
McLaughlin, Joseph Henry	<i>East Weymouth</i>
Mengel, John Hehn	<i>Frackville, Pa.</i>
Meunier, Raymond Royale	<i>Indian Orchard</i>
Milward, Francis William, Jr.	<i>East Boston</i>
Miner, Harold Cranston	<i>East Greenwich, R. I.</i>
Morein, Samuel	<i>Providence, R. I.</i>
Mullen, Walter John	<i>Newton Highlands</i>
Murphy, Albert Bernard	<i>Waltham</i>
Murphy, Edward Patrick	<i>East Bridgewater</i>
Murphy, John Michael	<i>Abington</i>
Nash, Francis Joseph	<i>Westboro</i>
Normandin, Louis Adolphus, Jr.	<i>Fall River</i>
O'Keefe, John Andrew	<i>Providence, R. I.</i>
Ormsby, Edward Bernard	<i>Dorchester</i>
Paige, Wilbur Myrtland	<i>Lynn</i>
Paul, Willard Stewart	<i>Shrewsbury</i>
Penn, Harry	<i>Lawrence</i>
Phillips, Karl Tristram	<i>Amesbury</i>
Poirier, Armand Charles	<i>New Bedford</i>
Raleigh, Walter Melvin	<i>Springfield</i>
Reynolds, Frank Albert	<i>Dorchester</i>
Rittner, Max	<i>Boston</i>
Robert, John Baptiste Wilfrid	<i>Tilton, N. H.</i>
Rosen, Kermit Charles	<i>Dorchester</i>
Rousseau, Wilfred Joseph	<i>New Bedford</i>
Ruggles, Ralph Hastings	<i>Ailantic</i>
Rust, George Stevens	<i>Manchester</i>
Saunders, Sallie Harding	<i>Hopedale</i>
Schwartz, Charles Wadsworth	<i>Suffield, Conn.</i>
Sciaraffa, John Maria	<i>Springfield</i>
Scott, Gilbert Henry	<i>Lawrence</i>
Segal, Joseph Nathaniel	<i>Boston</i>
Seiniger, Samuel	<i>Boston</i>
Shay, Edward Francis	<i>Fall River</i>
Sheehan, George Timothy	<i>Manchester, N. H.</i>
Silberg, Morris Abraham	<i>Boston</i>
Silverman, William Yale	<i>Revere</i>
Slattery, Mary Julie	<i>Worcester</i>

Spellissy, Frank Thomas	<i>Mariboro</i>
Splaine, Russell Leo	<i>North Brookfield</i>
Sporn, Abram	<i>Springfield</i>
Steinberg, Naaman	<i>Roxbury</i>
Sullivan, John Carroll	<i>Manchester, N. H.</i>
Sullivan, Margaret Buckley	<i>Winchendon</i>
Tashian, Hovnan Nazaret	<i>Boston</i>
Tilton, Warren Norwood	<i>New Bedford</i>
Vershow, Nathan	<i>Boston</i>
Waldron, Arthur Scott	<i>West Somerville</i>
Webber, Joseph Bernard	<i>Dorchester</i>
Weintraub, Harry Jeroham	<i>Boston</i>
Welch, John Laurence	<i>Brockton</i>
Weymouth, Currier Clyde	<i>Kingfield, Me.</i>
White, Earl Russell	<i>Attleboro</i>
Whitehead, William Levi, A.B., (Clark Univ.)	<i>Eastman, Ga.</i>
Williams, Walter Russell	<i>Roxbury</i>
Wolfson, Louis Elijah	<i>Malden</i>
Wunderly, Walter Spencer	<i>Nazareth, Pa.</i>
Yorshis, Philip	<i>Boston</i>

Dental School

[P. O. Address, 416 Huntington Ave., Boston, Mass.]

Third Year

(To graduate in June, 1916)

Adelstein, Hyman Joseph	<i>Boston</i>
Auger, Ernest William	<i>Manchester, N. H.</i>
Beerman, Sidney Herman	<i>Chelsea</i>
Berg, Bernard	<i>Dorchester</i>
Bowen, Fay Tarence	<i>Dickinson Center, N. Y.</i>
Brown, William Foster	<i>Boston</i>
Burrell, Harold Freeman	<i>South Weymouth</i>
Caisse, Richard Philemon	<i>North Leominster</i>
Carignan, Arthur Martin	<i>Dover, N. H.</i>
Carroll, Ralph Arthur	<i>Worcester</i>
Charren, Harry	<i>Providence, R. I.</i>
Coburn, Garnet	<i>St. John, N. B.</i>
Coggins, Charles William	<i>Marlboro</i>
Court, Samuel Jacob	<i>Haverhill</i>
Courtney, Charles Stephen	<i>Manchaug</i>
Cronin, Harry James	<i>Portsmouth, N. H.</i>
Crowell, Harold Williams	<i>Lynn</i>
Cunningham, Ralph Edward	<i>Gloucester</i>
Davis, Hilma Adella	<i>Boston</i>
Demarest, Obadiah Armstrong	<i>Newton, N. J.</i>
Desautels, Edmond Leonide	<i>Dover, N. H.</i>
Dimmick, Meriel Lapham	<i>Newburyport</i>
Dixon, Arthur, M.D.	<i>Worcester</i>
Donahue, Joseph James	<i>Newburyport</i>
Donohue, Paul Aloysius	<i>Springfield</i>
Dorenbaum, Philip	<i>Springfield</i>
Doucet, Louis Philip	<i>Manchester, N. H.</i>
Duffy, Philip Arthur	<i>Riverpoint, R. I.</i>
Farquhar, Andrew George	<i>Gilbertville</i>
Fialho, Joseph Augusto	<i>Gloucester</i>
Finkelstein, Nathan Harry	<i>East Boston</i>
Finkelstein, Paul Samuel	<i>Dorchester</i>
Freundlich, Harry	<i>Boston</i>
Gaw, George Joseph	<i>Auburndale</i>
Getchel, Robert Emmet	<i>Waltham</i>

Ginn, David Clifton	<i>West Somerville</i>
Goldberg, Alexander	<i>Boston</i>
Goldman, Samuel	<i>Boston</i>
Goodspeed, Frank Luther	<i>North Abington</i>
Greeley, Francis Joseph	<i>Boston</i>
Haskell, Harvey LeRoy	<i>Dexter, Me.</i>
Hatch, Charles Elliot	<i>Dark Harbor, Me.</i>
Hogan, Myles Thomas	<i>Cambridge</i>
Jaffee, Nathan Israel	<i>Brockton</i>
Johnstone, Alexander Patterson	<i>Waltham</i>
Keene, Stanley Clifford	<i>Roslindale</i>
Kells, Walter Donovan	<i>Greenfield</i>
Kelly, Clifford Earland	<i>Leominster</i>
Keltie, Alexander Leslie	<i>Jamaica Plain</i>
Kennedy, Walter Joseph	<i>Lawrence</i>
Krasnoo, Samuel	<i>Revere</i>
Lafayette, Theodore Edward, Jr.	<i>East Watertown</i>
LeBlanc, Jules Arthur (B.A., St. Joseph's Univ.)	<i>Moncton, N. B.</i>
Lesser, Louis	<i>Dorchester</i>
Litner, Maurice Allen	<i>Chelsea</i>
Luciano, Angelo	<i>Arlington Heights</i>
Lynch, Richard Alphonsus	<i>Dorchester</i>
Mackey, William John, Jr.	<i>Lenox</i>
Mahoney, John Joseph	<i>Boston</i>
Marjerison, Howard Mitchell	<i>Lawrence</i>
Mauss, Charles Wendell	<i>Hingham</i>
Mayo, Newell C.	<i>Athol</i>
McDonnell, Thomas Charles	<i>Pittsfield</i>
McGrath, Martin Henry	<i>Natick</i>
McKenna, John Henry	<i>Hyde Park</i>
Meagher, Matthew Aloysius	<i>Bennington, Vt.</i>
Moultis, Frank Walsh	<i>Springfield</i>
Nastasia, James Emmett	<i>Long Branch, N. J.</i>
O'Leary, Thomas Bernard	<i>Dorchester</i>
O'Neil, William Frances	<i>West Rutland, Vt.</i>
Ouimet, Arcade Joseph (B.S., Laval University)	<i>Leominster</i>
Parks, James William Marsden, Jr.	<i>Somerville</i>
Parsons, Willis Burleigh	<i>Cliftondale</i>
Pierce, Abijah Davenport	<i>Greenfield</i>
Pierce, Edmund Andrew	<i>New Bedford</i>
Reed, Mossman Gardner	<i>Houlton, Me.</i>
Reed, William Edward	<i>Fall River</i>
Roche, Edwin James	<i>Providence, R. I.</i>

Rommel, Benjamin	<i>Alma, N. B.</i>
Rye, Edwin Leroy	<i>Norwood</i>
Schofield, John Miller	<i>Whitinsville</i>
Sewell, John Emery	<i>Gibson, N. B.</i>
Shea, Michael Joseph	<i>Dalton</i>
Smith, George Roy	<i>Hampton, N. B.</i>
Smith, Roy Weir	<i>Everett</i>
Spack, Maurice	<i>Chelsea</i>
Spears, Everett Eaton	<i>Roxbury</i>
Stankard, Walter Martin	<i>Waltham</i>
Staples, Edward John	<i>South Portland, Me.</i>
Stevens, Marion Cecelia	<i>Reading</i>
Streker, Joseph Alfred	<i>Providence, R. I.</i>
Strong, William Henry	<i>East Boston</i>
Tannebring, Chester Henry	<i>Norwich Conn.</i>
Thomas, John Donoclift	<i>Somerville</i>
Todd, Joseph Donald	<i>South Boston</i>
Volk, Walter Jacob	<i>Allston</i>
Wade, John Aloysius	<i>Marlboro</i>
Walker, William Dodge (A.B., Dartmouth Coll.)	<i>Manchester, N. H.</i>
Wall, William Tracy	<i>Weymouth</i>
Westphal, Edward Herman	<i>Webster</i>
Whittaker, Walter Elton	<i>Chelsea</i>
Widdowson, Frank Xavier	<i>Holyoke</i>
(A.B., Holy Cross College)	
Wight, Clarence	<i>Belfast, Me.</i>
Wolff, Bruce McClellan	<i>Allston</i>
Wovsaniker, Louis	<i>Brooklyn, N. Y.</i>

Second Year

(To graduate in June, 1917)

Adams, William Raymond	<i>Clinton</i>
Alpers, Harry	<i>Salem</i>
AuCoin, Augustus Medrick	<i>Bangor, Me.</i>
Bafalis, Arthur John	<i>Manchester, N. H.</i>
Bardwell, Emory Chester	<i>Monson</i>
Barnard, Robert Hyland	<i>Keene, N. H.</i>
Barone, Anthony	<i>Boston</i>
Bearse, George Francis	<i>East Milton</i>
Bellefontaine, Edgar Paul	<i>Lowell</i>
Bennett, Harold Jones	<i>Monson</i>
Berubé, William Emerilde (A.B., St. Mary's Coll.)	<i>Skowhegan, Me.</i>
Besse, Harlan Frederic	<i>West Concord, N. H.</i>

Bixby, Helen Alva Marion	<i>East Lynn</i>
Blumerfield, Israel Michael	<i>Boston</i>
Cantor, Bernard Nathan	<i>New Bedford</i>
Carr, Thurston Everard	<i>Worcester</i>
Chase, Frank Leonard	<i>Portland, Me.</i>
Cobb, Marion Julia	<i>Caryville</i>
Coffey, Albert Gaffney	<i>Nashua, N. H.</i>
Coggar, William Thomas	<i>St. John, N. B.</i>
Collier, Harry Conrad	<i>Worcester</i>
Commins, John Francis	<i>St. Stephen, N. B.</i>
Cormier, Olivier Joseph, B.A.	<i>Shediac, N. B.</i>
Couillard, Rosaire Joseph	<i>Lowell</i>
Crites, Llewellyn Lloyd	<i>Lewiston, Me.</i>
Crowe, Paisley Sommers	<i>South Braintree</i>
Dawidowitz, Frida	<i>Boston</i>
Deane, Laura Belle	<i>Lowell</i>
Delaney, Henry Raymond	<i>Fall River</i>
DesMarais, Alfred George	<i>Somersworth, N. H.</i>
Desmond, Frederick James	<i>Beverly</i>
Dick, John Gilbert Temple	<i>Boston</i>
Donahoe, Theodore Patrick	<i>Winthrop</i>
Donohoe, William Frederick	<i>Lowell</i>
Doyle, Theresa Genevieve	<i>Biddeford, Me.</i>
Eburne, Frank Edward	<i>Chelsea</i>
Ellison, Arthur True	<i>Spencer</i>
Fierstein, Robert	<i>Providence, R. I.</i>
Foley, William Fergus	<i>Boston</i>
Ford, Wendell Phillips	<i>Dorchester</i>
Forgays, Raymond Gilbert	<i>Lowell</i>
Foster, Alice Sara	<i>Dorchester</i>
Fox, Charles Joseph	<i>Clinton</i>
Fox, Merwin Keith	<i>Chelsea</i>
Frechette, Emile August	<i>Worcester</i>
Frechette, Eugene Louis	<i>Worcester</i>
Fredette, Emile Raymond	<i>Linwood</i>
French, Albert Everard	<i>Winthrop, Me.</i>
Fuller, Frank, Jr.	<i>Fall River</i>
Garrard, Stanley Robert	<i>Allston</i>
German, George Henry	<i>Meteghan, N. S.</i>
Goodell, Edward Clark	<i>Shelburne Falls</i>
Goodridge, John Greenough	<i>Lynn</i>
Gould, Ernest Moore	<i>Dedham</i>
Grigg, Richard James	<i>Somerville</i>

Gutterson, Philip Cheever	<i>Fair Haven, Vt.</i>
Hall, Stanley Edward	<i>West Newton</i>
Hardy, Irving Robinson	<i>Taunton</i>
Harrigan, Clarence Wilfrid	<i>Houllton, Me.</i>
Harrington, Joseph Gerard	<i>Dorchester</i>
Hart, Harry Asahel	<i>Palmer</i>
Healy, Timothy Gerard	<i>West Newton</i>
Henriques, Sydenham Cohen	<i>Boston</i>
Henry, Edward Augustine	<i>Dorchester</i>
Herlihy, John Patrick	<i>Holyoke</i>
Hird, Walter Irving	<i>Dorchester</i>
Hoar, Martin Joseph	<i>Springfield</i>
Hooker, Alfred Lothrop	<i>Southampton</i>
Jewett, Fred Taylor	<i>Topsfield</i>
Jones, Harry Clinton	<i>Southampton</i>
Kapochy, Anthony Louis	<i>Shenandoah, Pa.</i>
Kearney, John Francis	<i>South Boston</i>
Kedian, Harold Francis	<i>Danvers</i>
Killory, John Francis	<i>Brockton</i>
Krasnoff, Charles William	<i>Dorchester</i>
LaBonte, John Edward	<i>Webster</i>
Lameri, Birney James	<i>Hardwick, Vt.</i>
Littlefield, Otis Moulton	<i>Manchester, N. H.</i>
Lockwood, Walter Eugene	<i>East Jewett, N. Y.</i>
Lundgren, Raymond Axel	<i>Providence, R. I.</i>
MacNeily, John	<i>North Cambridge</i>
Martin, Willard Everett	<i>Boston</i>
McCann, John Joseph	<i>Lowell</i>
McCarthy, Timothy John, Jr.	<i>South Boston</i>
McCoart, Joseph Raymond	<i>Rumford, R. I.</i>
McCue, William Henry	<i>Milford</i>
McGrath, James Harold	<i>Taunton</i>
Mechaber, Benjamin	<i>New Bedford</i>
Milliken, William Anthony	<i>Dorchester</i>
Mintz, Anna	<i>Roxbury</i>
Moore, William Edward	<i>Herkimer, N. Y.</i>
Morse, Carlton Brett	<i>Hudson</i>
Morse, Myron Clarke	<i>Haverhill</i>
Murphy, Frank Hill	<i>Brockton</i>
Murphy, John Ralph	<i>Medford</i>
Murray, Phillip Irving	<i>Revere</i>
O'Gorman, Frederick Patrick	<i>So. Manchester, Conn.</i>
O'Hara, Thomas Edward	<i>Cambridge</i>

Orr, Lauriston Ellis	<i>Dryden, Me.</i>
Owen, Richard Campbell	<i>Saco, Me.</i>
Palmer, Arthur Todd	<i>Braintree</i>
Palmer, Ray Huntress	<i>Haverhill</i>
Parker, Clarence Elwood	<i>East Lynn</i>
Phipps, Walter Emerson	<i>Holliston</i>
Porter, David	<i>Roxbury</i>
Prizer, Alec	<i>Lynn</i>
Ratner, Benjamin Robert	<i>Chelsea</i>
Rollins, Fred Goldsmith	<i>Wollaston</i>
Rosenberg, Edward	<i>Roxbury</i>
Rosenbloom, Willis Abraham	<i>Boston</i>
Ruggles, Everett Hale	<i>Boston</i>
Ryan, Edward Francis	<i>Amesbury</i>
Ryan, Edward Michael	<i>Lowell</i>
Saunders, John Thomas	<i>Webster</i>
Sawyer, Bertram Hatch	<i>Salem</i>
Sawyer, Robert Nims	<i>Manchester, N. H.</i>
Scanlan, James Bernard	<i>Providence, R. I.</i>
Schlichte, George Anthony	<i>South Boston</i>
Segal, Samuel	<i>Dorchester</i>
Seidel, John Charles	<i>Biddeford, Me.</i>
Shapiro, Miriam	<i>Worcester</i>
Sleeper, Edwin	<i>West Somerville</i>
Smith, Abraham George	<i>Boston</i>
Smith, George Richard	<i>Fall River</i>
Smith, Herman Nelson	<i>Vineyard Haven</i>
Smith, Isidore Wilfred	<i>Leominster</i>
Speight, Stephen Lawrence	<i>East Longmeadow</i>
Staples, Bernard Francis	<i>Brooks, Me.</i>
Sternberg, Louis	<i>Boston</i>
Stewart, Donald Gordon	<i>West Fort William, Ontario, Canada</i>
Stritch, Bertram Edward	<i>Gilbertville</i>
Sullivan, Edward Francis	<i>Springfield</i>
Swett, Alton Houghton	<i>Weld, Me.</i>
Taft, Clarence Milton	<i>Keene, N. H.</i>
Theriault, Wilfred Valentine	<i>Cambridge</i>
Thompson, Ralph James	<i>Lancaster, N. H.</i>
Tripp, Frederick Granville	<i>Taunton</i>
Valladares, Maximo Angel	<i>Manicaragua, Cuba</i>
Walsh, Charles Bartholomew	<i>Hull</i>
Weener, Joseph	<i>Boston</i>

Welch, William Francis	<i>Milford</i>
Whitney, Harold Snell	<i>Milford</i>
Wildes, Robert Patten	<i>Skowhegan, Me.</i>
Williams, Arthur Francis	<i>West Quincy</i>
Wilson, Arthur Clark	<i>Marblehead</i>
Wollison, Hammon Louis	<i>New Bedford</i>
Yeaton, Raymond Brelsford	<i>Amesbury</i>

First Year

(To graduate in June, 1918)

Adams, Philip Edwin	<i>Farmington, Me.</i>
Algar, Philip	<i>Milton</i>
Allan, Theodore DeWitt	<i>Spencer</i>
Allen, John Robert	<i>North Attleboro</i>
Ames, Walter Frank	<i>North Attleboro</i>
Audet, Joseph Achille	<i>Boston</i>
Backman, Maurice Peter	<i>Lynn</i>
Baker, Horace Earle	<i>North Attleboro</i>
Barry, Fred Thomas	<i>Danvers</i>
Bartlett, Charles Oscar	<i>East Holliston</i>
Bartlett, Donald Stearns	<i>Norway, Me.</i>
Baxter Charles Francis	<i>Waterville, Me.</i>
Begley, James Edward	<i>Woburn</i>
Belanger, Emile Jean	<i>Nashua, N. H.</i>
Bergan, Francis Patrick	<i>North Cohasset</i>
Berger, Albert Conrad	<i>Providence, R. I.</i>
Berman, Arby Irving	<i>Dorchester</i>
van den Besselaar, Hubert	<i>Dorchester</i>
Bianchi, Anthony Ferdinand	<i>Somerville</i>
Billingham, Oscar Warren	<i>Jamaica Plain</i>
Blackey, John Harold	<i>Brockton</i>
Bodin, Leroy George	<i>Florence</i>
Bourque, Joseph Alvinie	<i>Eelbrook, N. S.</i>
Brodbine, John Alfred	<i>Beachmont</i>
Brown, Henry Abraham	<i>Boston</i>
Brown, Frederic Ward	<i>Scituate</i>
Browning, Frank Duane	<i>Jewett City, Conn.</i>
Brush, David Carey	<i>Vineyard Haven</i>
Bucknam, Earle Shepard	<i>Lewiston, Me.</i>
Burke, Marcus Francis	<i>Clinton</i>
Burke, Mark Manuel	<i>Providence, R. I.</i>
Burke, William Edward	<i>Westfield</i>
Burnce, Rachel Minnie	<i>Boston</i>

Burns, Bernard John	<i>Worcester</i>
Burns, Leo Edward	<i>Natick</i>
Callahan, Henry Francis	<i>Peabody</i>
Campbell, Charles Edward	<i>Peabody</i>
Casper, Michael Vincent	<i>South Boston</i>
Cassidy, Donald William	<i>Houlton, Me.</i>
Chisholm, Walter King	<i>West Bridgewater</i>
Church, Dana Earle	<i>Springfield</i>
Clancy, William Henry	<i>Hudson</i>
Clark, Edwin Bruce	<i>New Wilmington, Pa.</i>
Clark, Ralph Arra	<i>Arlington</i>
Clarke, George Francis	<i>Lowell</i>
Cohen, Jacob	<i>Haverhill</i>
Cohen, Samuel	<i>Manchester, N. H.</i>
Cohen, Simon Isador	<i>Chelsea</i>
Collette, Albana Hugo	<i>Spencer</i>
Collins, William Henry	<i>Bondsville</i>
Connor, Frank John	<i>Portland, Me.</i>
Consolmagno, Luke Joseph	<i>Medford</i>
Cooper, Benedict	<i>Brooklyn, N. Y.</i>
Coughlan, Alphonsus John	<i>St. John, N. B.</i>
Crawford, Fred Brown	<i>Newport, Vt.</i>
Croisetiere, Leo Albert	<i>New Bedford</i>
Crossland, Ernest Agur	<i>Haverhill</i>
Crowl, Loyal J.	<i>Forest Hills</i>
Crowley, Harold Francis	<i>Biddeford, Me.</i>
Crowley, John Walter	<i>Dorchester</i>
Cunningham, Richard Daniel	<i>Chicopee Falls</i>
Cupitt, Graham Hunter	<i>Taunton</i>
Cushing, Ralph William	<i>Lynn</i>
Cushner, Jacob Aaron	<i>Boston</i>
Dacey, Arthur Joseph	<i>Marlboro</i>
Daitch, Abraham Richard	<i>Dorchester</i>
Dalton, Peter Joseph	<i>Marlboro</i>
DeFelice Michelangelo	<i>Boston</i>
Demers, Albert Oral	<i>Vermilion, Alberta, Canada</i>
Demers, Romeo Felix	<i>Manchester, N. H.</i>
Desmond, John Walter	<i>Shirley</i>
Devlin, James Joseph	<i>Dorchester</i>
Deyoe, Ralph Jacob	<i>Vergennes, Vt.</i>
Dickson, Robert Earl	<i>West Somerville</i>
Doane, Erling Eugene	<i>Somerville</i>
Doherty, Thomas Augustine	<i>Lynn</i>

Dottin, Lionel	<i>Colon, Panama</i>
Doyle, Thomas Owen	<i>Worcester</i>
Dufort, Gerald Eugene	<i>Manchester, N. H.</i>
Duke, Robert Josiah	<i>Northfield, Vr.</i>
Eaton, Dean Colton	<i>Brunswick, Me.</i>
Edwards, Arthur Francis	<i>Salem</i>
Egan, John Joseph O'Neil	<i>Dorchester</i>
Ellis John Henry	<i>Peabody</i>
Emmons, Harry Elmer, Jr.	<i>Brunswick, Me.</i>
Enos, John Francis	<i>West Roxbury</i>
Epstein Louis	<i>New Bedford</i>
Fairbanks, Ivan Dean	<i>South Norwalk, Conn.</i>
Fallon, Paul Owen	<i>Roxbury</i>
Farrell, Charles Laurence	<i>West Newton</i>
Fernald, Orrin Edgar	<i>Dover, N. H.</i>
Ferris, Oliver Morgan	<i>Hingham</i>
Flanders Charles Chase	<i>Malden</i>
Fleming, John Aloysius	<i>Boston</i>
Freedman, Abraham	<i>Boston</i>
Friedman, Reuben	<i>Boston</i>
Frizzell, Walter Miller	<i>Greenfield</i>
Garvey, Arthur Russell	<i>Waltham</i>
Gaudet, Leo Andrew	<i>St. Joseph, N. B.</i>
Gendreau, Raymond	<i>Dracut Center</i>
Ginn, James Richard	<i>West Somerville</i>
Goldsmith, William Erwin	<i>Newburyport</i>
Grady, Fred Blessington	<i>Holyoke</i>
Grady, Henry Joseph	<i>South Natick</i>
Green, Charles Harrison	<i>Boston</i>
Grenache, Thomas Emil	<i>Hudson</i>
Grimes, James Harvey	<i>Hillsboro, N. H.</i>
Grinnell, Willis Howland	<i>Waltham</i>
Grotsky, Meyer	<i>Boston</i>
Hackett, John Henry	<i>Biddeford, Me.</i>
Haffner, Ruth Clarissa	<i>Lawrence</i>
Hagerty, Daniel Joseph	<i>Nashua, N. H.</i>
Hagerty, John Francis, Jr.	<i>Nashua, N. H.</i>
Hall, James Paul, Jr.	<i>Cambridge</i>
Hannible, Robert Lang	<i>Salem</i>
Harmer, Milton Ivan	<i>Norton, N. B.</i>
Harris, Caspar	<i>East Boston</i>
Harris, Max Jacob	<i>Boston</i>
Harty, William Francis, Jr.	<i>Gloucester</i>

Harvey, Charles Edward	<i>Roxbury</i>
Heald, Alfred Daniel	<i>South Lancaster</i>
Heath, William Brewster	<i>Malden</i>
Henderson, Wilfrid Laurier	<i>Bedeque, P. E. I.</i>
Hickie, William Andrew	<i>St. George, N. B.</i>
Houle, Joseph Harvey	<i>Spencer</i>
Isherwood, Sidney	<i>Boston</i>
Jacobs, Max Henry	<i>Boston</i>
Jones, Solomon Jacob	<i>Hyde Park</i>
Kefferstein, John	<i>Lawrence</i>
Kelleher, John Alexander, Jr.	<i>Marlboro</i>
Kelleher, Joseph Jeremiah	<i>Brockton</i>
Kelley, Francis Xavier	<i>Milford</i>
King, Thomas Henry	<i>Newton Highlands</i>
Klein, Max Mitchell	<i>Roxbury</i>
Lambert, James Joseph	<i>Webster</i>
Lane, Robert Joseph	<i>Wakefield</i>
LaRochelle, Arthur Isidore	<i>Southbridge</i>
LeBlanc, Arthur Hilarion	<i>Cape Bald, N. B.</i>
LeClair, Harry Leigh	<i>Bristol, R. I.</i>
Leggat, Horatius Bonar	<i>Lowell</i>
Lemont, Mason Metcalf	<i>Bath, Me.</i>
Levin, Israel	<i>Providence, R. I.</i>
Levin, Nathan Simmon	<i>Salem</i>
Levine, Leo Israel	<i>Dorchester</i>
Leviton, Julius Joseph	<i>South Boston</i>
Lieske Annekätthe	<i>Berlin, Germany</i>
Lima, Frank William	<i>Lynn</i>
Little, Albert Wentworth	<i>Caribou, Me.</i>
Lounsbury, Paul, Jr.	<i>Roslindale</i>
Lynch, Ambrose Henry	<i>Providence, R. I.</i>
MacLellan, Charles Joseph	<i>Hudson</i>
Margolis, David Henry	<i>Boston</i>
Maycock, James Herbert	<i>Amesbury</i>
McAuliffe, Philip Leo	<i>Wakefield</i>
McClure, Nathan Francis	<i>Atlantic</i>
McCormick, John James	<i>Springfield</i>
McGowan, Fred Dennis	<i>Dover, N. H.</i>
McInnis, Joseph Ambrose	<i>Roxbury</i>
McKenna, Ernest James	<i>Dorchester</i>
McKenna, Paul Joseph	<i>Dorchester</i>
McLellan, William Leonard	<i>Kensington, P. E. I.</i>
McNary, Ralph Henry	<i>Chelsea</i>

Merrill, Asa Forrest	<i>Lynn</i>
Michelson, Myer Warren	<i>West Roxbury</i>
Mitchell, William Brewster Gould, Jr.	<i>Hull</i>
Moberg, Frank Walter	<i>Brockton</i>
Morein, David	<i>Gloversville, N. Y.</i>
Morrill, Everett Elverdo	<i>Dorchester</i>
Morrison, William Edward	<i>Everett</i>
Moskow, Rose	<i>Roxbury</i>
Mulcahy, Raymond Francis	<i>West Springfield</i>
Murphy, Charles Gerard	<i>Wollaston</i>
Murray, Charles Henry	<i>Worcester</i>
Neumann, Erna	<i>Bremen, Germany</i>
Norton, Thomas Augustus	<i>Rutland, Vt.</i>
Norton, Thomas Keene	<i>Lexington</i>
Nulty, Thomas Edmund	<i>Ticonderoga, N. Y.</i>
O'Connor, John Francis	<i>Fitchburg</i>
O'Hear, Francis Xavier	<i>Thompsonville, Conn.</i>
O'Neil, Frederick William	<i>Saranac Lake, N. Y.</i>
O'Neill, Harry Martin	<i>Nashua, N. H.</i>
Parsons, Fred Anthony	<i>Patten, Me.</i>
Pennine, Saverio Nicandro	<i>Providence, R. I.</i>
Perelman, Joseph Max	<i>Burlington, Vt.</i>
Podolinsky, Solomon Benjamin	<i>Boston</i>
Pofcher, Joseph	<i>Roxbury</i>
Power, John James	<i>Worcester</i>
Powers, Arthur Edward	<i>Taunton</i>
Powers, James Harold	<i>Peabody</i>
Powers, Richard Patrick	<i>Clinton</i>
Pratt, Herbert Louis	<i>Nashua, N. H.</i>
Quigley, Paul Francis	<i>Jamaica Plain</i>
Reardon, Timothy Henry, Jr.	<i>Lowell</i>
Reed, Leonard Harold	<i>Keswick Ridge, N. B.</i>
Richards, Clifton Stephen	<i>Haverhill</i>
Robertson, George Waldo	<i>North Abington</i>
Rosenblum, David Samuel	<i>Manchester, N. H.</i>
Ross, Samuel	<i>Boston</i>
Ross, Stanley Huggins	<i>Malden</i>
Rothblatt, George	<i>Willimantic, Conn.</i>
Rourke, Arthur Thomas	<i>Fitchburg</i>
Rubin, Joseph	<i>Boston</i>
Ryan, John Thomas	<i>Avon</i>
Sagansky, Harry	<i>Boston</i>
Sager, Louis Emmons	<i>Roslindale</i>

Saklad, Samuel	<i>Roxbury</i>
Sanborn, John Warren	<i>Amesbury</i>
Sanborn, Louis Albert	<i>Newburyport</i>
Sargent, Augustine Joseph	<i>Campello</i>
Savage, Gale Russell	<i>Fitchburg</i>
Schore, Herman	<i>Brooklyn, N. Y.</i>
Schwartz, Bernard Samuel	<i>Boston</i>
Schwartz, Hyman	<i>Boston</i>
Scott, Bessie Bonker	<i>Worcester</i>
Shanley, John Michael	<i>Boston</i>
Shapiro, Harry	<i>Lowell</i>
Shea, Timothy Harold	<i>Holyoke</i>
Sheehan, Albert Thomas	<i>Wallingford, Conn.</i>
Sheldon, Robert Francis	<i>Ticonderoga, N. Y.</i>
Shubow, Araham Sidney	<i>Roxbury</i>
Shum, Raymond Edward	<i>Boston</i>
Siskind, Berthold	<i>Lawrence</i>
Snell, John Philip	<i>Lynn</i>
Stevens, Roland Silas	<i>Monhegan, Me.</i>
Stewart, Roy Bryson	<i>Brighton</i>
Stokes, Samuel Hartley	<i>Rochester, N. H.</i>
Straw, Merle David	<i>Guilford, Me.</i>
Sullivan, Frederick Devlin	<i>Sherburne Falls</i>
Sullivan, George Thomas	<i>Dorchester</i>
Sullivan, Louis Edmund	<i>Maynard</i>
Sutliff, Harry Patrick	<i>South Boston</i>
Swaby, Edward Horatio	<i>Jamaica, B. W. I.</i>
Tetlow, Allen Redfern	<i>Taunton</i>
Teutonico, Arthur Iginio	<i>Lawrence</i>
Thomas, Kenneth Joshua	<i>Calias, Me.</i>
Threshie, Charles	<i>Brookline</i>
Trundy, Levi	<i>Searsport, Me.</i>
Turner, Ashleigh Wentworth	<i>Meductic, N. B.</i>
Voge, William Louis	<i>Jamaica Plain</i>
Walker, Edward Shipley	<i>Providence, R. I.</i>
Walsh, Edward Thomas	<i>Bidgewater</i>
Walsh, Lewis Edward	<i>Everett</i>
Wein, Theodore	<i>Roxbury</i>
Weisman, Frank	<i>West Somerville</i>
Welch, Francis Joseph	<i>Calais, Me.</i>
Wescott, Oliver Dunbar	<i>Malden</i>
Weymouth, Charles Haines, Jr.	<i>Fisherville</i>
Whittemore, Forrest James	<i>Palmer</i>

Wholey, Timothy Joseph	<i>Lawrence</i>
Whoriskey, George Richard	<i>Cambridge</i>
Williamson, Kenneth Gillmor	<i>Second Falls, N. B.</i>
Wills, Albert Cornelius	<i>Boston</i>
Wood, Paul Dennis	<i>Saco, Me.</i>
Woods, Edward Patrick	<i>Boston</i>
Woodworth, Randall Nelson, Jr.	<i>Concord Junction</i>
Yando, Arthur Heli	<i>Fitchburg</i>
Young, Loring Nelson	<i>North Brookville, Me.</i>

APPENDIX

A Statement of the Requirements in the Subjects that may be counted for Admission to Tufts College

Elementary English.

Three units.

Requirements for 1915-1919

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence and appreciation.

Grammar and Composition.

One and one-half units.

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

Literature.

One and one-half units.

The second object is sought by means of two lists of books headed respectively *Reading* and *Study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some

of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

READING (A)

The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I:

Group I. *Classics in Translation*.—The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the Aeneid. The Odyssey, Iliad, and Aeneid should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

Group II. *Shakespeare*.—Midsummer Night's Dream; Merchant of Venice; As you Like It; Twelfth Night; The Tempest; Romeo and Juliet; King John; Richard II; Richard III; Henry V; Coriolanus; Julius Cæsar*; Macbeth*; Hamlet*.

Group III. *Prose Fiction*. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobdingnag); DeFoe's

* If not chosen for study under (B).

Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's Novels (any one); Jane Austen's Novels (any one); Maria Edgeworth's Castle Rackrent, or The Absentee; Dickens's Novels (any one); Thackeray's Novels (any one); George Eliot's Novels (any one); Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward, the Wake; Reade's The Cloister and the Hearth; Blackmore's Lorna Doone; Hughes's Tom Brown's Schooldays; Stevenson's Treasure Island, or Kidnapped, or Master of Ballantrae; Cooper's Novels (any one); Poe's Selected Tales; Hawthorne's The House of the Seven Gables, or Twice-Told Tales, or Mosses from an Old Manse; a collection of Short Stories by various standard writers.

Group IV. *Essays, Biography, etc.*—Addison and Steele's The Sir Roger de Coverley Papers, or Selections from the Tatler and Spectator (about 200 pages); Boswell's Selections from the Life of Johnson (about 200 pages); Franklin's Autobiography; Irving's Sketch Book (about 200 pages), or Life of Goldsmith; Southey's Life of Nelson; Lamb's Essays of Elia (about 100 pages); Lockhart's Life of Scott (about 200 pages); Thackeray's Lectures on Swift, Addison, and Steele in the English Humourists; Macaulay's Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederic the Great, Madame d'Arblay (any one); Trevelyan's Life of Macaulay (about 200 pages); Ruskin's Sesame and Lilies, or Selections (about 150 pages); Dana's Two Years before the Mast; Selections from Lincoln, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and the Letter to Horace Greeley, together with a brief memoir or estimate; Parkman's The Oregon Trail; Thoreau's Walden; Lowell's Selected Essays (about 150 pages); Holmes's The Autocrat of the Breakfast Table; Stevenson's An Inland Voyage, and Travels with a Donkey; Huxley's Autobiography, and selections from Lay Sermons, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; a collection of essays by Bacon, Lamb,

DeQuincey, Hazlitt, Emerson, and later writers; a collection of Letters by various standard writers.

Group V. *Poetry*. Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (If not chosen for study under B); Goldsmith's The Traveller, and the Deserted Village; Pope's The Rape of the Lock; a collection of English and Scottish Ballads, as, for example, some Robin Hood ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens, and a selection from later ballads; Coleridge's The Ancient Mariner, Christabel, and Kubla Khan; Byron's Childe Harold, Canto III or IV, and The Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivry; Tennyson's The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa—Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, and the Forsaken Merman; Selections from American Poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

STUDY (B)

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

Group I. *Drama*.—Shakespeare's Julius Cæsar, Macbeth, Hamlet.

Group II. *Poetry*.—Milton's L'Allegro, Il Penseroso, and either Comus or Lycidas; Tennyson's The Coming of Arthur, The Holy Grail, and The Passing of Arthur; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's Golden Treasury (First Series).

Group III. *Oratory*.—Burke's Speech on Conciliation with America; Macaulay's Two Speeches on Copyright, and Lincoln's Speech at Cooper Union; Washington's Farewell Address, and Webster's First Bunker Hill Oration.

Group IV. *Essays*.—Carlyle's Essay on Burns, with a selection from Burns's Poems; Macaulay's life of Johnson; Emerson's Essay on Manners.

Examination.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts:

1. Grammar and Composition.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English, which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

2. Literature.

The examination in literature will include:

(a) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under **READING (A)**, above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions.

(b) A test on the books prescribed for study, which will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works, and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

Elementary German.

Two units.

It is expected that the candidate will have studied the subject in a systematic course for two school years, each covering the equivalent of 120 sixty-minute periods, during which special attention will have been given to pronunciation and to writing from dictation, as well as to the use of clear and idiomatic English in translation.

The examination will consist of two parts:

(a) The translation into German of easy English sentences, to test the candidate's knowledge of the following subjects: the declension of nouns, adjectives, and pronouns; the conjugation of weak and the more frequently recurring strong verbs; the prepositions and cases which they govern; the simpler uses of modal auxiliaries; the elementary rules of syntax and word order. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of easy German prose. It is believed that the requisite facility may be acquired by the reading

of from two to three hundred pages of easy German, with preference given to narrative style.

[The following list is made up from works suitable for reading in preparation for this examination; Anderson's *Bilderbuch ohne Bilder*; Arnold's *Fritz auf Ferien*; Baumbach's *Schwiegersohn*; Heyse's *Hochzeit auf Capri*; Storm's *Immensee*; Leander's *Träumereien*; Roth's *Ein nordischer Held*; Benedix, *Der Prozess*; Wilhelmi's *Einer muss heiraten*; Fulda's *Das verlorene Paradies*.]

In place of the examination in Elementary German a candidate may offer the examination of the College Entrance Examination Board in German A.

Intermediate German.

One unit.

It is expected that the candidate will have pursued, in addition to the work done in preparation for Elementary German, an additional year's work of 120 hours. He should thus have acquired the ability to translate with considerable facility ordinary prose, similar to that of the preparatory course, and to answer briefly in German questions asked in that language by the instructor. Oral practice and dictation should be continued in this third year and a somewhat thorough acquaintance obtained with the rules of syntax, particularly with the subjunctive and infinitive moods; attention should also be given to the simpler facts of word formation — roots, prefixes and suffixes.

The examination will consist of two parts:

(a) The translation into German of a connected passage of simple English, paraphrased from some German text.

(b) The translation at sight of passages of ordinary German prose. It is believed that the requisite facility may be acquired by reading in addition to the amount stated for Elementary German, about four hundred pages of narrative and dramatic prose and verse.

[The following list is made up from works suitable for reading in preparation for this examination: Ebner-Eschenbach's *Freiherren von Gemperlein*; Gerstäcker's *Irrfahrten*; Hoffmann's *Historische Erzählungen*; Meyer's *Gustav Adolfs Page*; Riehl's *Burg Neideck und Fluch der Schönheit*;

Freitag's Aus dem Staat Friedrichs des Grossen, and die Journalisten; Schiller's Geisterseher, Neffe als Onkel, and Balladen; Scheffel's Trompeter von Säkkingen.]

In place of the examination in Intermediate German a candidate may offer the examination of the College Entrance Board in German B.

Advanced German.

One unit.

This examination is open to candidates who have had the equivalent of a four years' course, with an average of 120 full hour periods per year. At the end of this course the student should be able to read, after brief inspection, any (save technical) modern German literature, if free from unusual textual difficulties; to put into German a passage of simple English prose, or to write in that language a brief theme on some assigned topic within his range; and to answer in German questions relating to the lives and certain works of the authors studied.

The examination will consist of three parts:

(a) The writing in German of a paragraph, original or translated.

(b) The translation into English of extracts from at least three distinctively different authors. It is believed that the requisite facility may be acquired by reading in addition to the amount mentioned under Intermediate German, about five hundred pages of good literature in prose and verse.

(c) An oral test of proficiency in hearing and pronouncing German.

[The following list is made up from works suitable for reading in preparation for this examination: Fouque's Undine; Scheffel's Ekkehard; Ludwig's Zwischen Himmel und Erde; Freytag's Soll und Haben; Hauff's Lichtenstein; Goethe's Dichtung und Wahrheit (extracts), Die neue Melusine, Hermann und Dorothea; Lessing's Minna von Barnhelm, Schiller's Wilhelm Tell, Jungfrau von Orleans, Geschichte des dreissigjährigen Krieges (third book); Grillparzer's Sappho; Kleist's Prinz von Homburg; Fulda's Talisman.]

In place of the examination in Advanced German, a candidate may offer the examination of the College Entrance Examination Board in German BC.

Elementary French.*Two units.*

It is expected that the candidate will have studied the subject in a systematic course for two school years, each covering the equivalent of 120 sixty-minute periods, during which special attention will have been given to pronunciation and to writing from dictation, as well as to the use of clear, idiomatic English in translation.

The examination will consist of two parts:

(a) The translation into French of easy English sentences to test the candidate's knowledge of the following subjects: the conjugation of the regular and the most frequently recurring irregular verbs; the forms and positions of personal pronouns; the uses of the other pronouns and of possessive, demonstrative, and interrogative adjectives; the variation of nouns and adjectives for gender and number (except rare cases); the partitive construction. Proficiency may also be tested by questions on these topics.

(b) The translation at sight of a passage of easy French. It is believed that the requisite facility may be acquired by the reading of not less than three hundred and fifty pages of simple prose, with preference given to narrative.

[The following list is made up from works suitable for reading in preparation for this examination: The easier stories of Daudet, Verne, and Erckmann-Chatrian; Foa's *Le petit Robinson* and *Contes Biographiques*; Enault's *Le Chien du Capitaine*; Malot's *Sans Famille*; About's *Le Roi des Montagnes*; Labiche and Martin's *La Poudre aux Yeux* and *Le Voyage de M. Perrichon*; Sarcey's *Le Siècle de Paris*.]

In place of the examination in Elementary French a candidate may offer the examination of the College Entrance Examination Board in French A.

Intermediate French.*One unit*

It is expected that the candidate will have passed, in addition to the work done in preparation for Elementary French, an additional year's work of 120 hours. He should thus have acquired the ability to translate with facility ordinary prose or verse similar to that of the preparatory course, and to answer briefly

in French questions asked in that language by the instructor. Oral practice and dictation should therefore be continued in this third year, together with a more detailed study of syntax, particularly of the use of moods and tenses, and of word formation and common idiomatic phrases.

The examination will consist of two parts :

(a) The translation into French of a connected passage of simple English.

(b) The translation at sight of passages of ordinary French prose or dramatic verse. It is believed that the requisite facility may be acquired by reading, in addition to the amount required for Elementary French, not less than four hundred pages of prose and verse, preference still being given to narrative form.

[The following list is made up from works suitable for reading in preparation for this examination: About's stories; Daudet's *La Belle-Nivernaise*; La Brète's *Mon Oncle et mon Curé*; Loti's *Pêcheur d'Islande*; George Sand's *Les Maîtres Mosaïstes*; Mérimée's *Colomba*; Thierry's *Récits des Temps mérovingiens*; Thiers's *L'Expédition de Bonaparte en Egypte*; Vigny's *La Canne de Jonc*; Corneille's *Horace*; Molière's *L'Avare* and *Le Bourgeois Gentilhomme*; Racine's *Athalie*; Augier and Sandeau's *Le Gendre de M. Poirier*; Coppée's poems.]

In place of the examination in Intermediate French a candidate may offer the examination of the College Entrance Examination Board in French B.

Advanced French.

One unit.

This examination is open to candidates who have had the equivalent of a four year's course, with an average of 120 full hour periods per year. At the end of this course the student should be able to read at sight, with the help of a vocabulary of special or technical expressions, difficult French of not earlier than the seventeenth century; to write in French a short essay on some simple subject connected with the works read in preparation, and to take part in a simple conversation in French.

The examination will consist of three parts :

(a) The writing in French of an original passage of at least 150 words on some assigned subject.

(b) The translation into English of extracts from at least three distinctly different authors. It is believed that the requisite facility may be acquired by reading, in addition to the amount mentioned under Intermediate French, from six hundred to one thousand pages of standard French, inclusive of works merely commented upon in class.

(c) An oral test of proficiency in hearing and pronouncing French.

[The following list is made up from works suitable for reading in preparation for this examination: Taine's *Origines de la France contemporaine*; Sainte-Beuve's *Causeries du Lundi* (Holt Ed.); Voltaire's *Prose* (Heath Ed.); Balzac's *La Recherche de l'Absolu*; Dumas' *Les trois Mousquetaires* (Ginn Ed.); Pelissier's *Anthologie des Prosateurs français contemporains* (Paris, Delagrave Ed.); Racine's *Andromaque*, *Britannicus*, *Athalie*; Corneille's *Cinna* and *Polyeucte*; Molière's *Les Précieuses Ridicules*; Beaumarchais' *Mariage de Figaro*; Hugo's *Hernani* and *Ruy Blas*.]

In place of the above, a candidate may offer the examination of the College Entrance Examination Board in French BC.

Elementary Latin.

Two units.

The Latin reading shall be not less in amount than Cæsar, Gallic War, I—IV, and should be selected by the schools from Cæsar (Gallic War and Civil War) and Nepos (Lives). Candidates will be examined in translation at sight of passages from the above authors, also in grammar and composition.

In place of the examination for two units in Elementary Latin a candidate may offer the following examination of the College Entrance Examination Board:

Latin, 3.

Intermediate Latin.

One unit.

The Latin reading, without the prescription of particular authors and works, shall be not less in amount than Cæsar, Gallic War, I—IV, and Cicero, the orations against Catiline, for the Manilian Law, and for Archias; this reading should be selected from Cæsar (Gallic War and Civil War) and Nepos (Lives), Cicero (orations, letters, and *De Senectute*) and Sallust (*Catiline* and *Jugurthine War*).

Candidates will be examined in translation at sight of passages from Cæsar and Cicero. The vocabulary, constructions, and range of ideas will be suited to the preparation secured by the reading indicated above. There will also be an examination on the following prescribed reading: Cicero, orations for the Manilian Law and for Archias.

Or the requirement in poetry, as defined under Advanced Latin, may be offered as optional in place of the third year prose.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

In place of the examination for three units in Intermediate Latin a candidate may offer the following examinations of the College Entrance Examination Board:

Latin, 1, 2, and 4.

Advanced Latin.

One unit.

I. AMOUNT AND RANGE OF THE READING REQUIRED

1. The Latin reading, without regard to the prescription of particular authors and works, shall be not less in amount than Cæsar, Gallic War, I—IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, *Æneid*, I—VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and *De Senectute*) and Sallust (Catiline and Jugurthine War); Vergil (*Bucolics*, *Georgics*, and *Æneid*) and Ovid (*Metamorphoses*, *Fasti*, and *Tristia*).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS

1. *Translation at sight.* Candidates will be examined in translation at sight of both prose and verse. The vocabulary,

constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, *Æneid*, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. *Grammar and Composition.* See statement under Intermediate Latin.

In place of the examination for four units in Latin a candidate may offer the following examinations of the College Entrance Examination Board:

Latin, 1, 2, 4, and 5.

SUGGESTIONS CONCERNING PREPARATION

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and the position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose

paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

A written examination cannot test the ear or tongue, but proper instruction in any language will necessarily include the training of both. The school work in Latin, therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be more practised.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

Elementary Greek.

Two units.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course for two years. It will consist of two parts, which cannot be taken separately:

(a) The translation at sight of passages of simple Attic prose.

(b) An examination on Xenophon's *Anabasis*, directed to testing the candidate's mastery of the ordinary forms, constructions, and idioms of the language.

Before taking the elementary examination the candidate should have read, in addition to the usual grammar work, at least four books of Xenophon's *Anabasis*, or an equivalent.

In place of the examination in Elementary Greek a candidate may offer the following examinations of the College Entrance Examination Board.

Greek A i and ii, and B.

Advanced Greek.

One unit.

The examination will be adapted to the proficiency of those who have studied Greek in a systematic course for three years. The two parts of the examination may be taken separately:—

(a) The translation at sight of an average passage of Homer ; with questions on ordinary forms, constructions, and idioms, and on prosody.

(b) The translation into Attic prose of a passage of connected English narrative. The passage set for translation will be based on some portion of the Greek prose works usually read in preparation for college.

Before taking the examination in Advanced Greek the candidate should have completed at least four books of Xenophon's *Anabasis*, or their equivalent in Attic prose, and six books of Homer's *Iliad*, or their equivalent in the *Odyssey*. It is recommended that Greek composition accompany all stages of the preparation, and that the pupil be practiced in reading Greek aloud from the beginning of the course.

In place of the examination in Advanced Greek a candidate may offer the following examinations of the College Entrance Examination Board.

Greek A i, B, C or CH, and F.

Elementary History.

One unit.

One of the following:

1. The History of Greece and Rome. (a) The history of Greece to the death of Alexander, with due reference to Greek life, literature, and art, as treated in the histories of Botsford, Oman, West, or Myers. (b) The history of Rome to the accession of Commodus, with due reference to Roman literature and government. Such texts as those of Morey, Botsford, West, or Allen will indicate the character of the work desired.

While the periods indicated above will be accepted as satisfying the entrance requirements in ancient history, it is strongly recommended that the study of the history of Greece be continued to the conquest of Greece by Rome, and that the history of Rome be pursued to the fall of the Western Empire.

This does not necessarily imply any increase in the time devoted to Greek and Roman history.

2. The History of England. The history of England, with due reference to social and political development. The histories of Andrews, Larned, and Montgomery will indicate the character of the work expected.

3. The History and Government of the United States. Such texts as those of McLaughlin, Johnston, Channing, and Guitteau should be used.

It is recommended that all candidates for admission to the courses leading to the degree of A.B. or B.D. should offer Greek and Roman history.

The elementary requirement in history implies one year's work of not less than five periods a week. A note-book of not less than fifty written pages, based upon three hundred pages of collateral reading, must be presented at the time of examination. Equivalent for the subjects named above will be accepted, but candidates desiring to offer substitutes must give notice to the Secretary of the Faculty at least one month previous to the time set for the examination. Work in the text-book should be constantly accompanied by collateral reading. The attention of teachers is called to the Report of the Committee of Seven, published by the Macmillan Company, New York, under the title, "The Study of History in Schools," and to the "History Syllabus for Secondary Schools" published by Heath and Co., Boston.

In place of any one of the examinations described above a candidate may offer any one of the four examinations in History of the College Entrance Examination Board.

Advanced History.

One of the following:

1. The History of Greece and Rome, as described above, for those only who have offered English history or the history and government of the United States as primary subjects.

2. The History of England as described above, for those who have not offered English history as a primary subject.

3. The History and Government of the United States, for those who have not offered the History and Government of the United States as a primary subject.

Each of these subjects requires one year's study of not less than five recitation-periods a week. A note-book of not less than fifty written pages, based upon three hundred pages of collateral reading, must be presented at the time of the examination. Equivalents for the subjects outlined above will be accepted, upon due notice, as indicated above under Elementary History.

In place of any of the examinations in Advanced History a candidate may offer any one of the four examinations in History of the College Entrance Examination Board, provided that the subject so offered has not been accepted for the Elementary History requirement.

Mathematics.

A knowledge of the metric system, and ability to perform accurately the ordinary processes of arithmetic, are presumed.

A 1. Algebra to quadratics.

One unit.

The four fundamental operations for rational algebraic expressions.

Factoring, determination of highest common factor and lowest common multiple by factoring.

Fractions, including complex fractions, and ratio proportion.

Linear equations, both numerical and literal, containing one or more unknown quantities.

Problems depending on linear equations.

Radicals, including the extraction of the square root of polynomials and of numbers.

Exponents, including the fractional negative.

A 2. Algebra. Quadratics and beyond.

One unit.

Quadratic equations, both numerical and literal.

Simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations.

Problems depending on quadratic equations.

The binomial theorem for positive integral exponents.

The formulas for the n th term and the sum of the terms of arithmetical and geometric progressions, with applications.

C. Plane Geometry, including the usual theorems on straight lines, angles, rectilinear figures, circles, and regular polygons; similar triangles and proportion; construction; original exercises in demonstration; numerical problems in mensuration.

One unit.

B. Advanced Algebra: Permutations and combinations; complex numbers and the graphical representation of sums and differences; determinants including the use of minors, and the solution of linear simultaneous equations; solution of numerical equations of higher degree and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes' rule of signs and Horner's method. Credit in Advanced Algebra is given only on examination.

One-half unit.

D. Solid Geometry, including properties of straight lines and planes, dihedral and polyhedral angles; of projections, of polyhedrons, including prisms, pyramids, and the regular solids; of cylinders, cones, and spheres; of spherical triangles, and the measurement of surfaces and solids.

One-half unit.

F. Plane Trigonometry, including the definition and relations of the six trigonometrical functions as ratios, proof of important formulæ, solution of trigonometric equations of a simple character, theory of logarithms and use of tables, solution of right and oblique plane triangles.

One-half unit.

In place of the examinations in Mathematics a candidate may offer the examinations of the College Entrance Examination Board as follows:

Math. A for A; Math. C for C; Math. B for B; Math. D for D; Math. F for F.

Physics.

One unit.

The unit in Physics consists of at least 120 periods of sixty minutes each. Time spent in the laboratory shall be counted at one-half its face value. The course of instruction should

include: (1) The study of one standard text-book. (2) Individual laboratory work consisting of experiments requiring at least the time of 30 double periods. Each student should perform at least 30 experiments, so distributed as to cover as fully as possible the subject matter of the text-book.

In lieu of the presentation of the laboratory note-book, at the time of the examination, the candidate must present a certificate in the following form:

TEACHER'S CERTIFICATE

..... School
..... 19

I certify that has personally performed and properly recorded in a suitable note-book experiments in the physical laboratory of the School, during the year

The entire course has occupied time equal to periods of 60 minutes each, of which hours have been given to the laboratory work and hours to lecture and recitation work.

Signed

Teacher of Physics.

The teacher may here enter the final grade of per cent.

In place of the above, candidates may present the examination of the College Entrance Examination Board in Physics.

Chemistry.

One unit.

Preparation for this requirement presupposes a course in general inorganic chemistry (non-metals and metals) of not less than five periods a week for a year. The amount of class work should equal that in *An Introduction to the Study of Chemistry*, by Ira Remsen, and the experiments should be equivalent to those in Remsen's *Laboratory Manual*. Time spent in the laboratory shall be counted at one-half its face value. The experiments must be performed by the student, and a certified laboratory note-book must be presented at the time of the examination.

In place of the above, candidates may offer the examination of the College Entrance Examination Board in Chemistry.

Biology, Botany and Zoology.

One unit each.

In Biology, Botany and Zoology the examiners give more weight to the character of the work and the development of scientific habits than to the time spent; but at least five periods a week for a year must be given to each subject presented, and of this at least a half should consist of laboratory work. Certified copies of laboratory note-books must be presented. The work should be in structural and physiological lines and should include a detailed study of at least ten types. While it is desirable that these types should represent the chief phyla of the plant and animal kingdoms, it is most important that through their study the student shall become familiar with the experimental or inductive method of work.

In place of the examinations in Biology, Botany and Zoology, candidates may offer the examinations in Biology, Botany and Zoology of the College Entrance Examination Board.

Geology or Geography.

One unit.

1. Geology: Le Conte's Elements of Geology or a book of equivalent grade, including a similar account of evolutionary theory.

2. Geography: Davis, or book of equivalent grade.

At least five periods a week for a year must have been given to the subject presented. There should have been some laboratory work and excursions. Certified copies of note-books of laboratory work and excursions must be presented.

In place of the examination in Geography, candidates may offer the examination in Geography of the College Entrance Examination Board.

Freehand Drawing.*

One unit.

Such a knowledge of the fundamental principles of perspective is required as shall enable the student to draw a simple geometric figure with or without the use of a model. Certified drawings from a systematic course must be submitted for approval and the student may be examined on all points in doubt.

*Not more than two units may be counted by any candidate in the subjects of Drawing and Shopwork.

In place of the above the candidate may offer the examination in drawing of the College Entrance Examination Board.

Mechanical Drawing.*

One unit.

Accuracy and neatness in drawing is of the first importance, and no amount of work will make amends for neglect in these respects. The student must be familiar with the use of ordinary instruments, and able to solve geometrical problems with accuracy and rapidity. He must have an elementary knowledge of projection, intersection and development, and should also be practiced in the drawing of the ellipse, the parabola, and the hyperbola. The suggested course is included in the first one hundred pages of Anthony's Elements of Mechanical Drawing. Certified drawings must be submitted for approval and the student may be examined on all points in doubt.

Shopwork.*

The following units are given for courses satisfactorily pursued in well organized and fully equipped manual training or technical high schools in which the broad foundations of manual and graphic culture are given. The elementary work in the several courses must be thoroughly covered, and no credit will be given for premature engineering work.

Joinery	<i>One-half unit</i>
Wood Turning and Elementary Pattern Making	<i>One-half unit</i>
Forging	<i>One-half unit</i>
Bench and Machine Metal Fitting	<i>One-half unit</i>

Details of the work required for preparation in the above courses may be obtained by application to the Department of Mechanic Arts.

Elementary Economics.

One-half unit.

Preparation for Economics presupposes that the candidate has studied the subject in a systematic course of at least three periods a week for one full year. Credit in Economics will be given only on examination. The examination will be based

* See foot-note on preceding page.

upon such text-books as Bullock's or Seager's Introduction to the Study of Economics. A knowledge of civics and, particularly, modern industrial history is of great value in supplementing the study of economic theory.

Music.

Entrance credit in Music is given only on examination. Not more than one unit in Music may be counted by any candidate.

(A) MUSICAL APPRECIATION. *One-half unit.*

The examination will be adapted to the attainment of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate is expected to have (1) a general knowledge of the principal musical forms—song, classic dance, fugue, sonata (all movements), symphony—and of their historical development; (2) a general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Purcell, Handel, Gluck, Haydn, Cherubini, Weber, Rossini, Glinka, Mendelssohn, Schumann, Wagner, Verdi; (3) familiarity with certain designated works, the list of which may be had on application to the Department of Music. In the examination on these works, the candidate will be expected to identify characteristic portions of the works set, when played in any key by the examiner; and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform, nor to read from printed music.

(B) HARMONY. *One-half unit.*

The examination will be adapted to the proficiency of those who have had one year's systematic training, with three lessons a week, or its equivalent. The candidate should have acquired (1) the ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass: these melodies will require a knowledge of triads and inversions, of diatonic seventh chords and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly-

related keys; (2) analytical knowledge of ninth chords, all non-harmonic tones, and altered chords (including augmented chords). [Students are encouraged to apply this knowledge in their harmonization.]

It is urgently recommended that systematic ear-training (as to interval, melody, and chord) be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The student will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use.

(D) PIANOFORTE, OR (E) VOICE, OR (F) VIOLIN. *One-half unit.*

The examination in each of these subjects will consist of a test in theory, and a test in performance. The former will be conducted in writing, and will be adapted to the proficiency of those who have had one year's systematic training, with one lesson a week, or its equivalent. The candidate should have acquired:

A knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression-marks in common use; the ability to analyze the harmony and form of hymn-tunes and simplest pieces for the pianoforte, involving triads and the dominant seventh chord and their inversions, passing tones, and modulation to nearly-related keys; the ability to harmonize, on paper, in four vocal parts, melodic fragments involving the use of triads and the dominant seventh chord and their inversions in major keys.

As a basis of the test in performance, the candidate is to furnish a detailed statement from the teacher, showing the course of instrumental or vocal study pursued.

In place of the above, candidates may offer the corresponding examination of the College Entrance Examination Board: Music A, B, and D or E or F.

EXAMINATIONS OF THE COLLEGE ENTRANCE EXAMINATION BOARD

In June, 1916, the admission examinations of this College will be the examinations of the College Entrance Examination Board, of which Tufts College is a member. The examinations will be held during the week June 19-24, 1916, in Robinson Hall, Tufts College, Massachusetts.

All applications for examinations must be addressed to the Secretary of the College Entrance Examination Board, Post Office Station H, New York, N. Y., and must be made upon a blank form, to be obtained from the Secretary of the Board upon application.

Applications for examination at points in the United States east of the Mississippi River, also at Minneapolis, St. Louis, and other points on the Mississippi River, must be received by the Secretary of the Board at least two weeks in advance of the examinations, that is, on or before Monday, June 4, 1916; applications for examinations elsewhere in the United States or in Canada must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 29, 1916; and applications for examination outside of the United States and Canada must be received at least five weeks in advance of the examinations, that is, on or before Monday, May 15, 1916.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon the payment of \$5.00 in addition to the usual fee.

The examination fee is \$5.00 for all candidates examined at points in the United States and Canada, and \$15.00 for all candidates examined outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board in June, is published about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

For the convenience of those who present the examinations of the College Entrance Examination Board, the following table of equivalents is presented:

TUFTS COLLEGE ENTRANCE SUBJECTS	COLLEGE ENTRANCE EXAMINATION BOARD EQUIVALENT
English 1	English 1
English 2	English 2
Elementary German	German A
Intermediate German	German B
Advanced German	German BC
Elementary French	French A
Intermediate French	French B
Advanced French	French BC
Elementary Latin	Latin 1 and B, or 3
Intermediate Latin	Latin 1, B and C, or 1, 2 and 4
Advanced Latin	Latin 1, B, C, D, P and Q, or 1 2, 4 and 5
Elementary Greek	Greek A i and ii B, and G
Advanced Greek	Greek A i, B, C or CH, F, and G
Elementary History	History, A, B, C, or D
Advanced History	History, A, B, C, or D
Mathematics	
Algebra A 1	Mathematics A 1
Algebra A 2	Mathematics A 2
Plane Geometry	Mathematics C
Advanced Algebra	Mathematics B
Solid Geometry	Mathematics D
Trigonometry	Mathematics F
Physics	Physics
Chemistry	Chemistry
Botany	Botany
Zoology	Zoology
Biology	Biology
Geology or Geography	Geography
Freehand Drawing	Drawing

SUMMARY

Trustees	28
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CORPS OF INSTRUCTION

Emeriti	10
President and Professors	53
Associate Professors	3
Assistant Professors	3
Lecturers	4
Instructors	88
Demonstrators	12
Assistant Demonstrators	6
Assistants	43
Total engaged in work of instruction	249
Other Officers, not previously counted	38
	<u>287</u>

STUDENTS

SCHOOL OF LIBERAL ARTS:

Seniors	29
Juniors	41
Sophomores	43
Freshmen	93
Special	1
Unclassified	9—216

JACKSON COLLEGE FOR WOMEN:

Seniors	16
Juniors	16
Sophomores	21
Freshmen	40
Specials	2
Unclassified	1—96

ENGINEERING SCHOOL:

Seniors	21
Juniors	38
Sophomores	39
Freshmen	89
Special	1
Unclassified	4—192

BROMFIELD-PEARSON SCHOOL	10
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CRANE THEOLOGICAL SCHOOL	13
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GRADUATE SCHOOL	10
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ONE-YEAR PRE-MEDICAL COURSE	120
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MEDICAL SCHOOL:

Fourth Year	80
Third Year	100
Second Year	74
First Year	129—383

DENTAL SCHOOL:

Third Year	105
Second Year	147
First Year	257—509

Total registration of students	1549
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Names appearing twice	8
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Total number of students	<u>1541</u>
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